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Canada. Civil aviation branch.
Notices to airmen (NOTAM)

Aug 9/65 - Jan. 1/71



CAI T 20
N57

Government
Publications

Aerodromes - Water

10/65
9th August

NOTAM



DEPARTMENT OF TRANSPORT

Page 1 of 2

AIR SERVICES
CIVIL AVIATION BRANCH

SPECIAL PROCEDURES AND FACILITIES
WATER AERODROMES
(Amending NOTAM 12/64 pages 14 and 15)

OPERATION OF SEAPLANES IN VANCOUVER HARBOUR, BRITISH COLUMBIA

The National Harbours Board has agreed to permit the operation of seaplanes within the Vancouver Harbour proper (the area lying between the First and Second Narrows Bridges), with the following restrictions:

- (1) No seaplane will land, take-off or taxi on the step:
 - (a) within 300 feet of any shoreline, wharf, fixed object or vessel,
 - (b) within Coal Harbour or the First Narrows, i.e. west of a line drawn from the Immigration Wharf to Burnaby Shoal, then extended true north to intersect the North Shore. (see chart on reverse side)
- (2) Aircraft are prohibited from flying under the Lions Gate (First Narrows) Bridge.
- (3) Pilots using the harbour proper must possess a Private Pilot or higher type of Pilot Licence.
- (4) Flying training operations are not permitted in this part of the harbour.

Permits to operate in the harbour are not required, but information regarding the volume of seaplane traffic would be of great benefit to both the National Harbours Board and the Department of Transport in giving consideration to any further relaxation of restrictions. All operators should, therefore, keep records of the number of times they use the harbour and advise the Regional Director, Air Services, Vancouver on December 1st of each year.

No restrictions other than the 300 foot clearance from fixed objects or vessels will apply east of the Second Narrows Bridge or west of the First Narrows Bridge.

MAY 30 1969
R. G. Godwin,
Director, Civil Aviation.



NOTAM

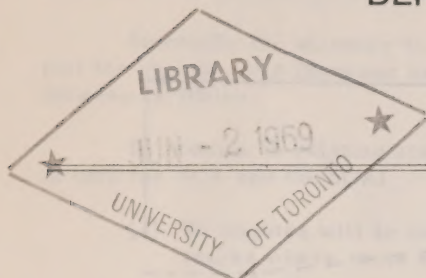


8/66
16th May.

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DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH



AREA CONTROL ABOVE FL 230

An area control concept has been successfully applied in the area known as the Northern Control Area (NCA) since 1963. This concept is to be expanded at 0001 GMT on July 7, 1966 to include all airspace above flight level 230 in the area which will be defined as the Southern Control Area (SCA). It is planned to amalgamate both areas by amendments to ANO Series V No. 2 at an early date. The information contained in this NOTAM is intended to explain the airspace which will be protected laterally and the longitudinal separation standards which will be applied by air traffic control in both areas.

Definitions

High Level Airway: A track between specified radio aids to air navigation above Flight Level 230 within the navigable airspace of Canada.

Southern Control Area (SCA): All airspace above flight level 230 overlying that area between the southern boundary of the Northern Control Area and the Canada/USA Boundary, within the Canadian Domestic Flight Information Regions.

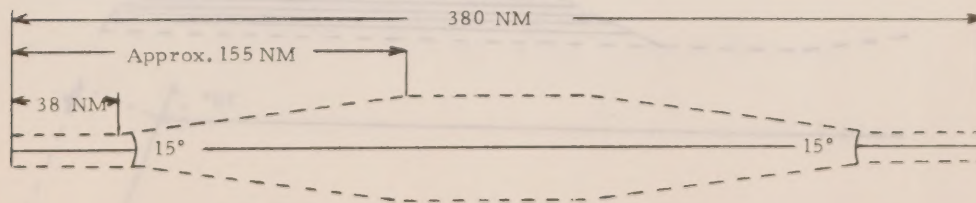
This area will be designated as controlled airspace and the following rules will apply:

- (a) All flights at or below flight level 450 will be conducted in accordance with the Instrument Flight Rules and, therefore, require an ATC clearance.
- (b) "1000' on top" flight will not be permitted at or below flight level 450.

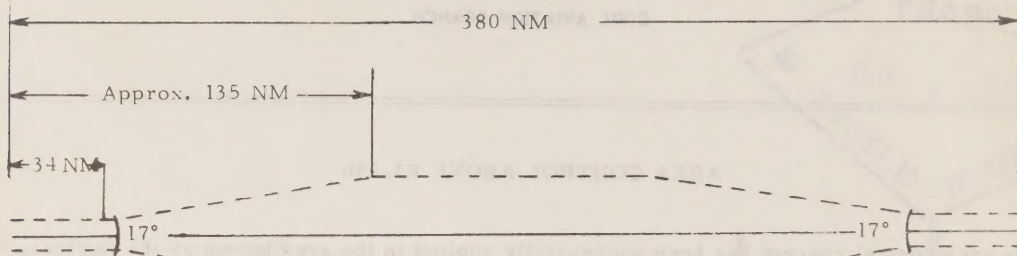
Application

Since High Level Airways will have no lateral dimensions, the airspace will be protected laterally as follows:

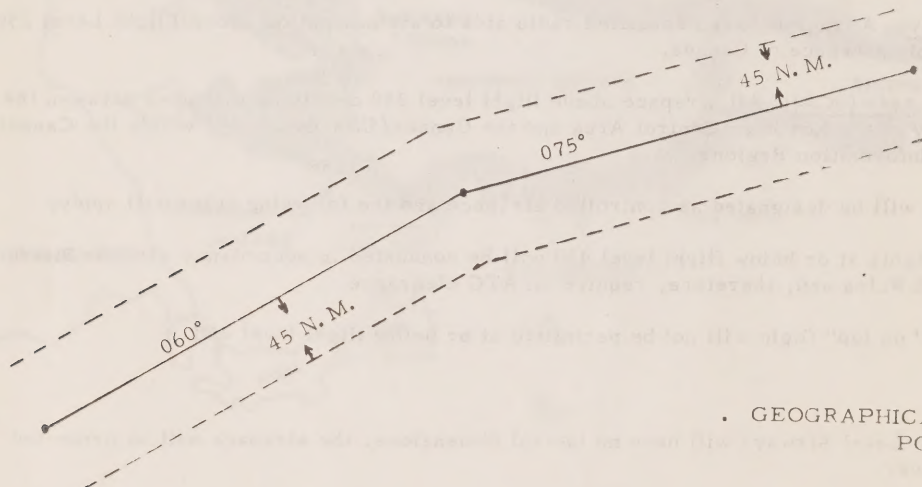
- (a) On High Level Airway Sections of 500 miles or less between navigation aids the airspace shall be a width of 10 nautical miles (5 miles either side of the designated track) at the navigation aid. This width will continue outward from the navigation aid until lines diverging at $7\frac{1}{2}$ degrees (used for flight checked omni radials and low frequency range courses) or $8\frac{1}{2}$ degrees (used for non-flight checked omni radials and NDB's) either side of the designated track from the navigation aid exceed the 5 nautical miles and will continue out to a maximum width of 20 nautical miles either side of the designated track.



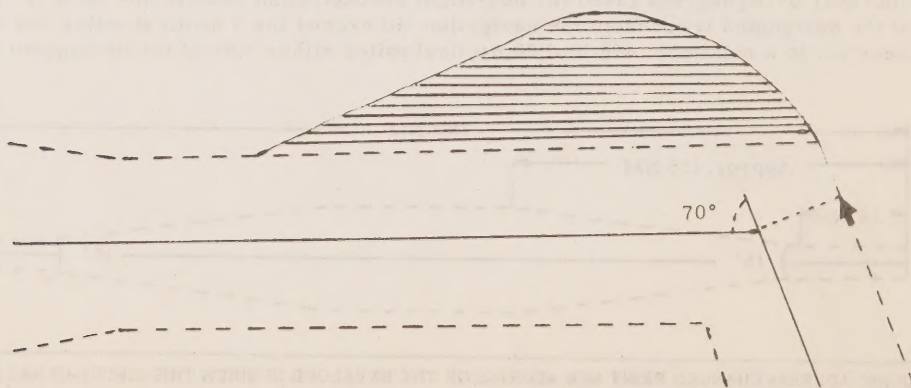
- (b) On tracks other than High Level Airways where navigation facilities are 500 miles or less apart the airspace shall be the same as in (a) above except that the lines of divergence from the navigation facilities will always be $8\frac{1}{2}$ degrees.



- (c) The airspace to be protected for tracks other than those mentioned in (a) and (b) will be 45 nautical miles either side of the approved track.



- (d) Additional airspace will be protected on the manoeuvring side of track for turns of more than 15 degrees overhead navigational aids and intersections.



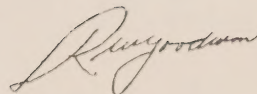
Since lateral separation will be provided in the form of "airspace to be protected" with relation to an approved track, it will be the pilot's responsibility to remain on the approved track, in order to be assured of adequate lateral separation from other air traffic.

Normally the airspace to be protected for any approved track will be predicated on the premise that the change-over from one navigation reference to another will take place approximately midway between facilities.

In addition to existing standards the following longitudinal separation standards will be employed in both the NCA and the SCA:

- (a) 20 minutes will be the minimum standard for aircraft flying on the same or crossing tracks where route segments will exceed 500 nautical miles.
- (b) 15 minutes will be used between turbo-jet aircraft assigned Mach numbers by ATC while enroute and flying on the same track where route segments will exceed 500 nautical miles.

Initially, only those route segments which now make up the high level airway structure will be shown on route charts. The charts will not display the airspace that is being protected for the designated tracks.



R. W. Goodwin,
Director, Civil Aviation.

The following information will be provided to the extent of the information available to the Agency. It will be the policy of the Agency to provide information to the extent of the information available to the Agency.

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Special Agent in Charge

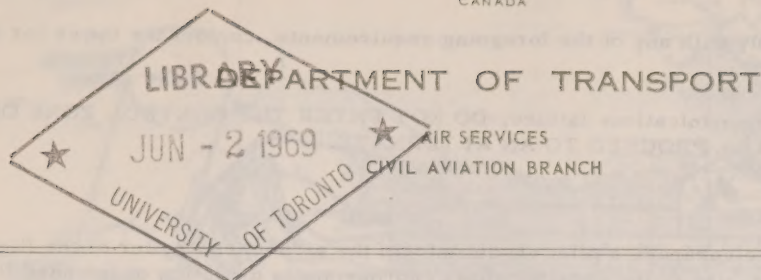
NOTAM



Government
Publications
AIR TRAFFIC CONTROL

15/66

12th September



Special VFR Procedures - Vancouver International Airport

In order to maintain a safe and orderly flow of IFR and VFR traffic within the Vancouver Control Zone during Special VFR weather conditions, the following procedures will become effective 15 September, 1966.

Holding areas have been established for the use of VFR aircraft awaiting clearance to enter the Vancouver Control Zone during Special VFR weather conditions as follows: (See attached Chart).

- i) Point Grey Jetty - A circular left-hand pattern centred on the end of the North Arm Jetty.
- ii) Spanish Banks - A circular left-hand pattern centred on the Point Grey Bell Buoy.
- iii) Steveston - A circular left-hand pattern centred on a point on the south bank of the South Arm of the Fraser River directly opposite the village of Steveston.
- iv) Lightship - A circular left-hand pattern centred on the Lightship.

Corridors between the airport and the approved holding areas have been established for use by Special VFR aircraft as follows: (See attached Chart)

- i) Point Grey Shoreline - via the west shore of Sea Island and the south side of the Fraser River Jetty to/from Point Grey.
- ii) Steveston Shoreline - via the west shore of Lulu Island to/from Steveston and via the Steveston Jetty to Lightship.
- iii) Point Grey North Arm - via the north arm of the Fraser River and the north side of the Fraser River Jetty to/from Point Grey.

General Procedures

It is necessary for pilots using the Special VFR corridors to adhere to the following:

- i) Refrain from entering flight conditions beyond pilot or aircraft capability.
- ii) Remain clear of cloud and within sight of the ground or water at all times.
- iii) Maintain an altitude of not more than 500 feet.
- iv) Remain within $\frac{1}{2}$ mile of the corridor centreline.
- v) Remain clear of IFR approach paths when within 10 miles of the airport.

.....2

- vi) If unable to comply with any of the foregoing requirements, contact the tower for instructions or assistance.
- vii) In the event of communications failure, DO NOT ENTER THE CONTROL ZONE OR RETURN TO THE AIRPORT - PROCEED TO AN ALTERNATE.

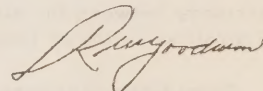
Departure Procedures

When requesting taxi clearance, a pilot should inform the airport controller of the flight's destination in order that, when possible, use of the corridor most appropriate to direction of intended flight may be authorized. On occasion, because of weather or traffic, it may be necessary for the airport controller to clear a flight to depart via a corridor leading away from destination. In this case the flight is to proceed via the approved corridor to a point beyond the control zone boundary and then, remaining well clear of the zone, continue to destination. Such a flight is not to re-enter the control zone without further ATC approval.

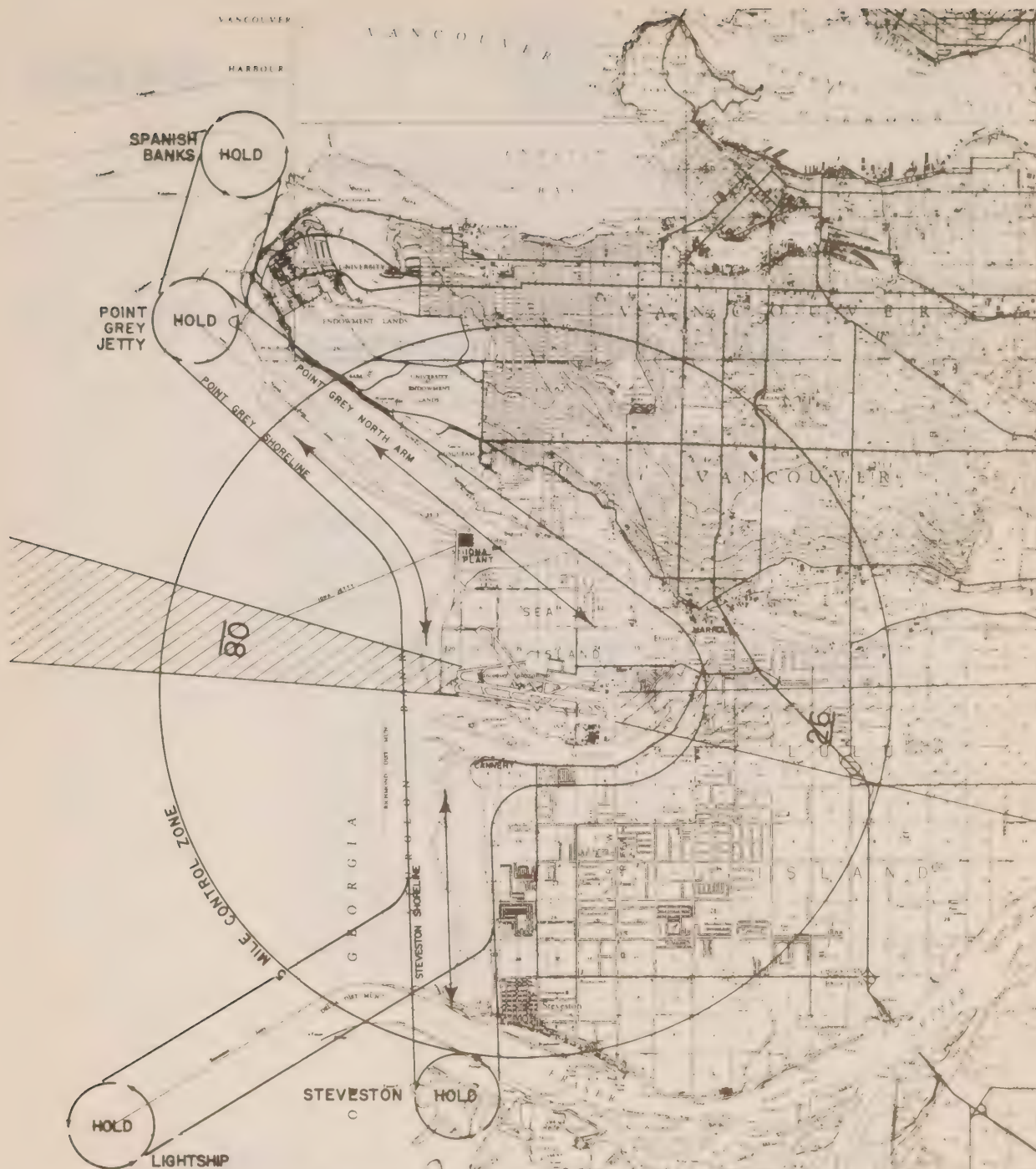
Arrival Procedures

Arriving VFR flights should contact Vancouver Tower well before reaching the control zone. When necessary, the airport controller will suggest that the flight hold in a specific holding area until traffic conditions permit issue of an approach clearance. The controller will provide an approximate time of entry into the control zone and information on any known traffic at the holding point. In each case the pilot has to decide whether he will hold or proceed elsewhere, and inform the Tower accordingly. The controller will be able to issue clearance to the airport via an approved corridor only after the pilot reports in a specific holding area.

While the procedures outlined above will be normally used for Special VFR flight in the Vancouver Control Zone, S/VFR flights outside of the corridors will be approved from time to time if traffic permits.



(R. W. Goodwin),
Director, Civil Aviation.



**VANCOUVER INTERNATIONAL AIRPORT
SPECIAL VFR CORRIDORS - TOWER CLEARANCE REQUIRED**

1. Remain clear of cloud and within sight of surface.
2. Remain within 1/2 mile of corridor centre line.
3. Maintain not more than 500 feet altitude.
4. Remain clear of IFR approach paths within 10 miles of airport.
5. Do not enter flight conditions beyond pilot or aircraft capability.
6. If unable the foregoing contact tower for instruction or assistance.
7. Radio failure: DO NOT ENTER CONTROL ZONE OR RETURN TO AIRPORT..... PROCEED TO AN ALTERNATE.

NOTAM



Government
Publications
Hazards and Obstructions

18/66
28th October

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

HAZARDS TO AIR NAVIGATION

(Superseding NOTAMS 20/64 and 1/65)

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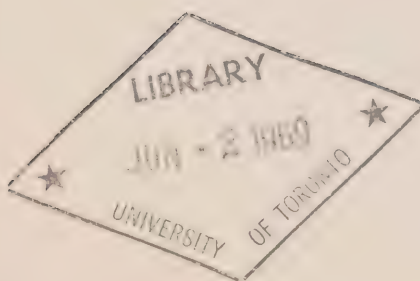
GENERAL HAZARDS

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1

SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS LISTED BY PROVINCE

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SECTION ONE

GENERAL HAZARDS WARNING TO PILOTS

In the past few years, there has been a noticeable increase in the various kinds of electric transmission line crossings, telephone line crossings, etc., over rivers and lakes in Canada. It is suggested, therefore, that pilots of seaplane and amphibious aircraft, as well as pilots flying at low altitudes in poor weather conditions, use caution when flying along or landing and taking off from unfamiliar waterways.

Companies and concerns constructing such crossings have been requested to mark the towers and poles with alternate bands of international orange and white paint, and to clear the area around the base of these structures, so that they will be more readily visible from the air.

It is possible that some crossings have not been marked, or that some have been marked and are still difficult to see. Consequently, the utmost caution when flying in and around unfamiliar waterways should be exercised. In addition, pilots are advised to use caution whenever flying over unfamiliar terrain at less than 1,500 feet above ground level, in view of the many transmission, radio, T. V. and micro-wave towers being erected across the country.

TALL STRUCTURES IN CANADA 500 FEET OR HIGHER ABOVE GROUND LEVEL CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

Structures 500 feet or higher above the surrounding terrain which have been brought to our attention are listed separately for each Province. These are considered potentially hazardous to aircraft operations particularly in marginal weather conditions. The Department is unable to guarantee the completeness of this list. Pilots are therefore warned that other such structures may exist.

Extreme caution should be exercised when flying in the vicinity of these structures, particularly in conditions of reduced visibility, and especially so if the pilot is flying over unfamiliar terrain.

MILITARY JET TRAFFIC

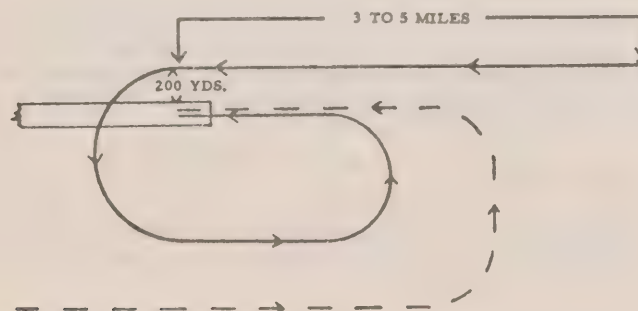
While military jet activity may be encountered in the vicinity of any airport, military jet traffic making high speed arrivals and departures is likely to be encountered frequently at the following airports and a sharp lookout should be maintained.

Comox, B. C.
Cold Lake, Alta.
Portage Sask.
Rivers, Man.

Gimli, Man.
Lakehead, Ont.
Val d'Or, Que.
Bagotville, Que.

Chatham, N. B.
Goose Bay, Lab.
Moose Jaw, Sask.

Military jet aircraft do not normally follow the rectangular circuit pattern but perform a "flat break" followed by an abbreviated circuit pattern as illustrated below.

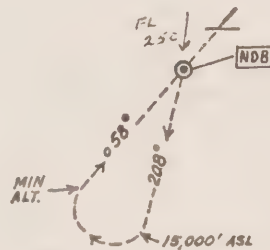
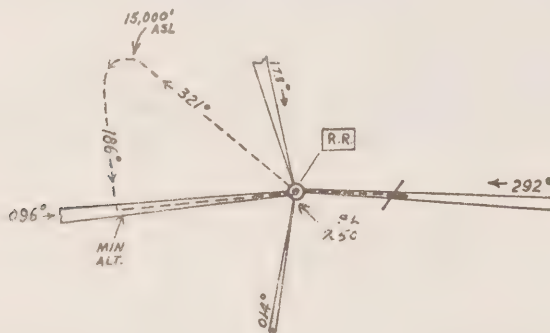


POTENTIAL HAZARD - MILITARY JET APPROACH PROCEDURES

Jet aircraft may be expected to use any aeronautical facility in Canada for the purpose of carrying out an instrument approach procedure. The two basic types of procedures now in effect are as follows:

- (a) The first type of procedure is one in which the jet commences the procedure by crossing the facility being used at Flight Level 200 or Flight Level 250. It then descends out-bound on a heading of 45° to the left or right of the desired in-bound track to an altitude of 15,000 feet ASL where a penetration turn is made to intercept the in-bound track at right angles. Descent is continued in the penetration turn and the in-bound track is usually intercepted at minimum altitude. The aircraft then proceeds on the in-bound track to the facility and from the facility to the airport.
- (b) The second type of procedure is one in which the jet commences the procedure by crossing the facility being used at Flight Level 200 or Flight Level 250 and then descends out-bound on a heading of 30° to the left or right of the in-bound track to an altitude of 15,000 feet ASL. At this point a penetration turn is made to intercept the in-bound heading at minimum altitude. The aircraft then proceeds to the facility and from the facility to the airport.
- (c) Samples of these procedures are here shown in pictorial form.

While jet aircraft obtain the necessary clearance to commence an approach, it will be apparent that due to the speeds and rates of descent being used a certain amount of hazard will exist to aircraft flying visual in the area where the jet breaks through the cloud base. Therefore, all pilots are cautioned that when flying VFR in the vicinity of an airport they should remain sufficiently below the cloud base to avoid conflict with aircraft making descent through the cloud.



All jet procedures in Canada are based on the use of standard navigational aids such as LF Radio Ranges, NDB's or VOR's. Pilots are urged to maintain a listening watch on the appropriate frequency when flying in the vicinity of any of these facilities and to keep a sharp lookout for jet aircraft performing let-down procedures.

LOW LEVEL FLYING EXERCISES

As a result of changes made in military training syllabi there has been a further increase in the number of low-level flying exercises. Heavy military jet traffic at both high and low altitudes may therefore be encountered in the vicinity of the following aerodromes:

Cold Lake, Alberta.

(Extensive military jet traffic at altitudes less than 1000 feet above ground within a 200 nautical mile radius).

Portage la Prairie, Manitoba.

Gimli, Manitoba.

Chatham, N. B.

Moose Jaw, Sask.

MILITARY AIR OPERATIONS AT HIGH ALTITUDES

Civil pilots operating within the Goose Upper Flight Information Region may encounter military aircraft flying in a "cell" formation of three aircraft.

In "cell" formation, the aircraft are separated vertically by 500 feet and while the formation will be centred on the proper hemispherical cruising level according to the direction of flight one aircraft will be 500 feet above this level and one 500 feet below.

The 2,000 feet vertical separation between aircraft on opposing tracks as provided by the Cruising Altitude Order (A. N. O. Series V, No. 2) will, in these circumstances, be reduced to 1,500 feet.

AIR REFUELLING AREAS

Air-refuelling areas, as listed below and illustrated on the accompanying chart, are designated within Canadian Airspace:

(a) HIGH LEVEL (Flight Levels 250-330)

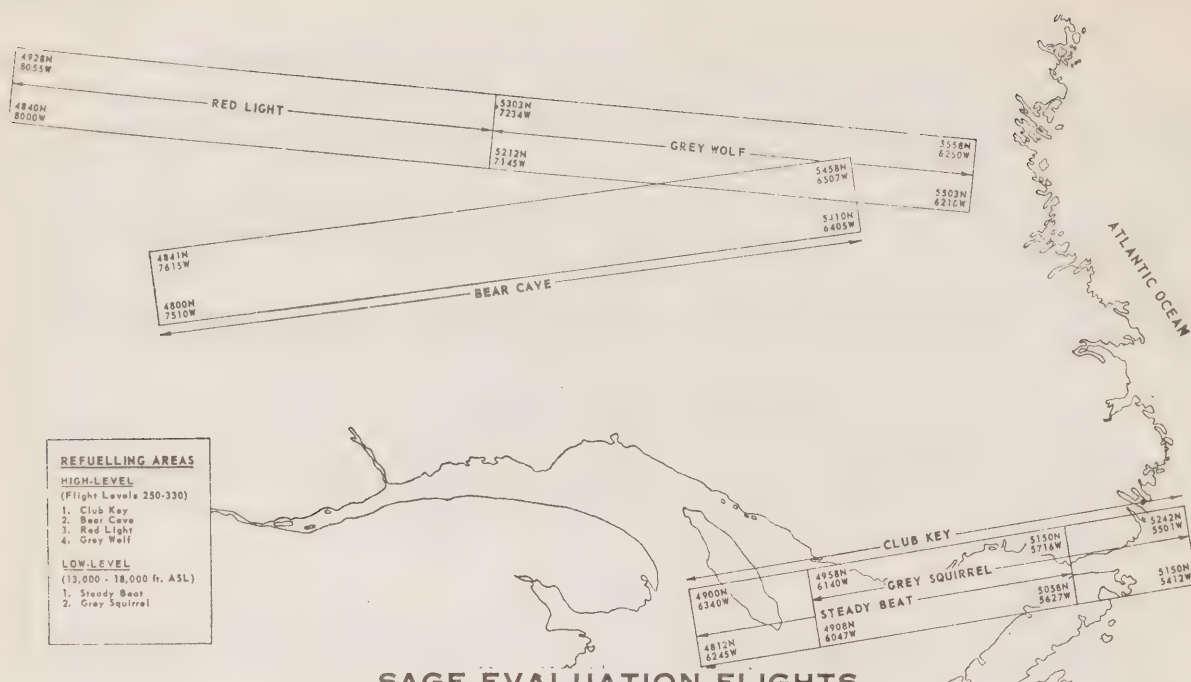
<u>Code Name</u>	<u>Coordinates</u>
(1) Club Key	49°00'N, 63°40'W to 48°12'N, 62°45'W to 51°50'N, 54°12'W to 52°42'N, 55°01'W to point of beginning.
(2) Bear Cave	48°41'N, 76°15'W to 48°00'N, 75°10'W to 54°10'N, 64°05'W to 54°58'N, 65°07'W to point of beginning.
(3) Red Light	49°28'N, 80°55'W to 48°40'N, 80°00'W to 52°12'N, 71°45'W to 53°03'N, 72°34'W to point of beginning.
(4) Grey Wolf	53°03'N, 72°34'W to 52°12'N, 71°45'W to 55°03'N, 62°10'W to 55°58'N, 62°50'W to point of beginning.

(b) LOW LEVEL (13,000-18,000 feet ASL)

<u>Code Name</u>	<u>Coordinates</u>
(1) Steady Beat	49°00'N, 63°40'W to 48°12'N, 62°45'W to 50°58'N, 56°27'W to 51°50'N, 57°16'W to point of beginning.
(2) Grey Squirrel	49°58'N, 61°40'W to 49°08'N, 60°47'W to 51°50'N, 54°12'W to 52°42'N, 55°01'W to point of beginning.

Class I International NOTAMS, advising time periods when air-refuelling operations will be in progress and detailing the actual flight levels/altitudes to be used by tanker/receiver aircraft, will be issued, normally, 24 hours in advance of the time of activation of any refuelling area. Refuelling areas will be referred to by the use of the code names outlined in para. 1 above. Detailed information concerning areas, tracks, flight levels/altitudes to be used by aircraft participating in air-refuelling operations prior to their entry into, and/or following departure from, refuelling areas, will be included in these Class I NOTAMS.

Pilots whose planned flights would enter air-refuelling areas are cautioned to avoid specific areas during periods when refuelling operations are advertised as being in progress.



SAGE EVALUATION FLIGHTS

The Department of National Defence is conducting numerous daily SAGE Evaluation Flights within the following area in Canada.

From	49°00N	130°00W	North to
	58°00N	130°00W	East to
	58°00N	123°00W	North to
	59°00N	123°00W	East to
	59°00N	115°00W	South to
	58°00N	115°00W	East to
	58°00N	100°00W	South to
	56°00N	100°00W	East to
	56°00N	95°00W	South to
	54°00N	95°00W	East to
	54°00N	82°00W	North to
	56°00N	82°00W	East to
	56°00N	70°00W	North to
	58°00N	70°00W	East to
	58°00N	60°00W	South to
	43°00N	60°00W	East to
	43°00N	67°00W	North to
	45°00N	67°00W	Thence west along the Canada/US border to the point of beginning.

Within this area above 8,000 feet ASL in uncontrolled airspace, flights will be conducted at altitudes which may not be in accordance with the Cruising Altitude Order (A. N. O. Series V, No. 2). Specific information concerning proposed daily flights will be disseminated by Class I NOTAM at least 24 hours prior to take-off.

Pilots planning flights in this area during this period are cautioned to obtain daily Class I NOTAMS as issued and maintain extra vigilance in the interest of safety, and in addition, are advised, where possible, to avoid use of the altitudes specified in the NOTAMS.

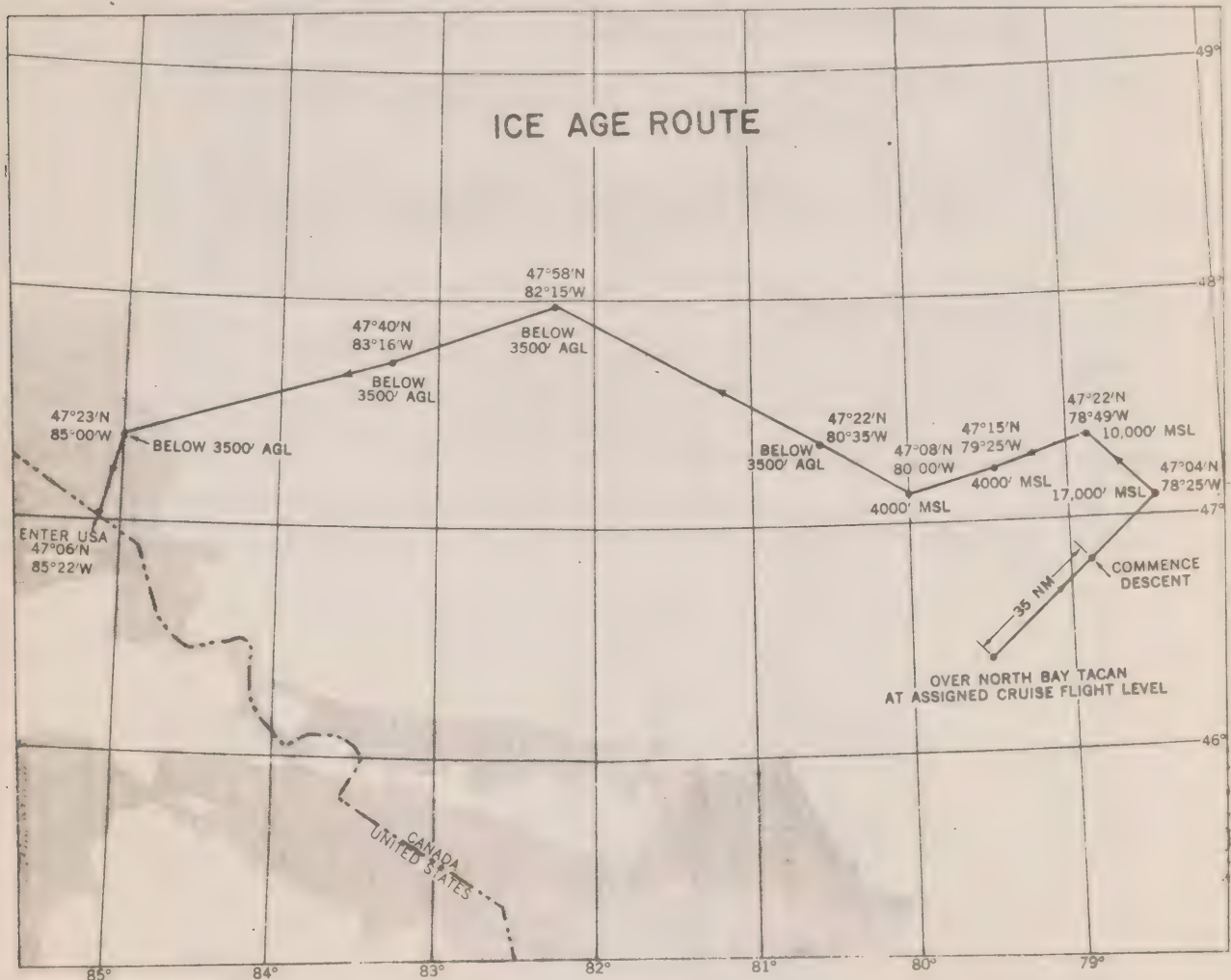
Full information concerning these flights will be available from the appropriate area control centres.

UNITED STATES AIR FORCE - LOW-LEVEL TRAINING FLIGHTS

United States Air Force low-level training flights over Canada will penetrate Canadian airspace from bases located in the eastern United States and proceed direct to North Bay, Ontario.

From North Bay these aircraft will follow the route and be flown at the altitudes shown on the following diagram.

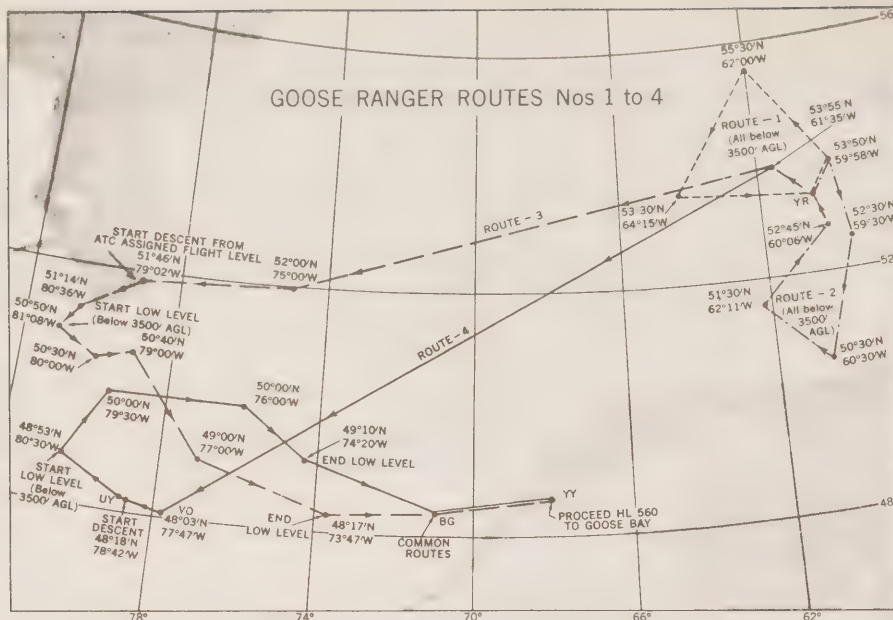
These training flights may continue each day of the week on a 24-hour basis and pilots are urged to exercise caution when flying along or across these routes.



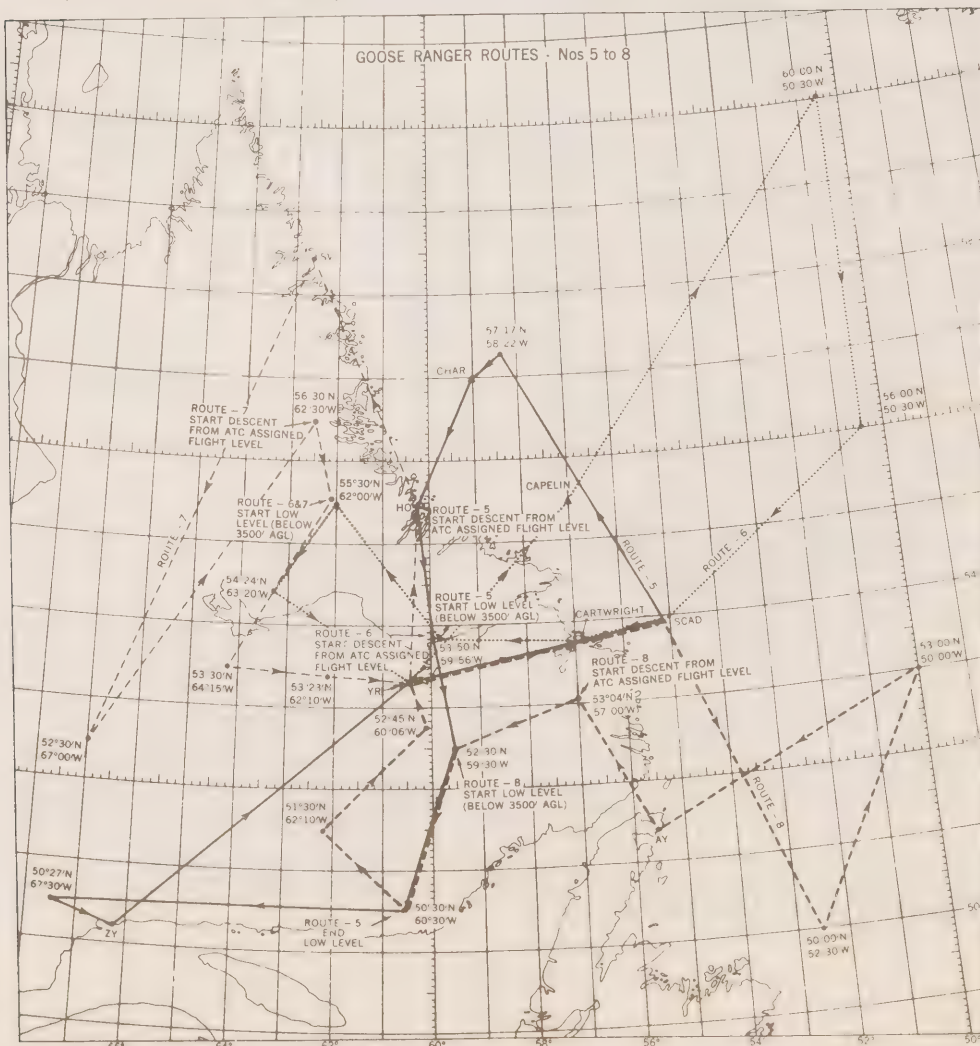
ROYAL AIR FORCE - LOW-LEVEL TRAINING FLIGHTS

The Royal Air Force will make approximately ten low-level training flights a week from Goose Bay, Labrador.

Routes and altitudes to be flown are shown on the following diagrams and all pilots are urged to exercise caution when flying along or across these routes.



Produced by Surveys and Mapping Branch,
Department of Mines and Technical Surveys.



HAZARDOUS CONDITIONS IN UNCONTROLLED AIRSPACE

Due to extensive military air operations being conducted in uncontrolled airspace under VFR & IFR conditions throughout the whole of Canada, pilots of IFR flights are urged, in the interest of safety, to plan and conduct such flights, insofar as is possible, along controlled airways or air routes.

In many cases, IFR flights have been observed to "cut corners" in the vicinity of the junction of two or more controlled airways. Such practice is in contravention of the Air Regulations, and pilots involved are endangering themselves as well as the lives and property of others. Proven instances of this kind will therefore be dealt with accordingly.

DANGER - COLLISION RISK BETWEEN AIRCRAFT AND BIRDS

A number of incidents occur each year involving birds striking aircraft in flight. In many of these incidents sufficient damage to the aircraft and injuries to persons are caused to classify them as aircraft accidents.

Where flocks or individual birds are observed at a distance a course should be adopted that will carry the aircraft well clear. Where the birds are not observed in time to take avoiding action then the crew should duck their heads below the level of the windscreen. Many incidents have occurred where the bird has come right through the windscreen.

Generally large flocks of migratory birds may be expected, at or below 5,000 feet above ground, during the months of April, May, August, September and November. Mass migration of waterfowl usually follow rivers or chains of lakes or sloughs. In autumn such migrations are also associated with high pressure weather systems and they track from northwest to southeast, in spring they follow the flow of warm air from the south. These generalities do not preclude the possibility of encountering good sized flocks of ducks or geese under other conditions. The risk of encountering migratory birds will of course be greater in the areas detailed in the section "Migratory Birds Protection" of the current Information Circular entitled GENERAL.

In all areas of Canada except coastal British Columbia, the Maritimes and Newfoundland the risk from migratory birds should be negligible from early December to mid-March. In mild winters the risk may be present in southwestern Ontario.

SECTION TWO

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

LISTED BY PROVINCE

NEWFOUNDLAND

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

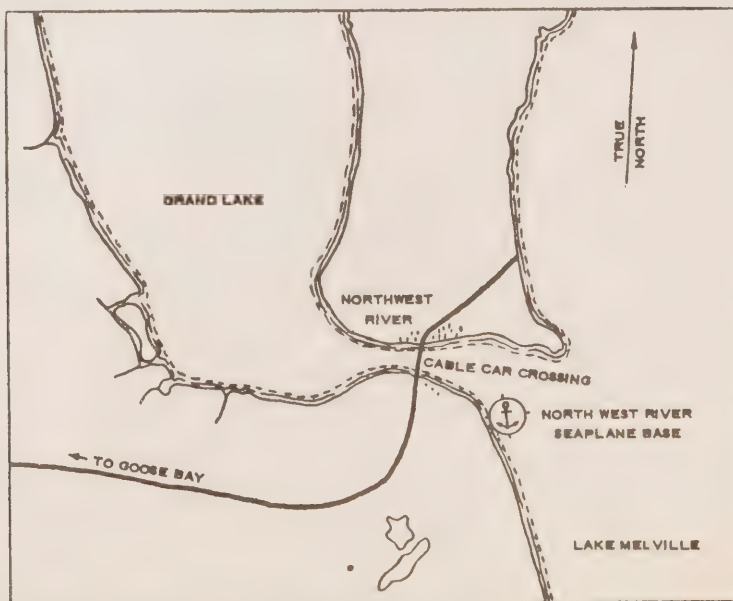
AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Comfort Cove, Nfld.	Decca Tower	49°21'	54°52'	600'	630'
Port Rexton, Nfld.	T. V. Tower	48°26'27"	53°21'25"	550'	1034'
Trepassey, Nfld.	Loran C Antenna	46°46'30"	53°10'30"	1350'	1785'

HAZARDS PENDING PUBLICATION ON CHARTS

Tower erected at 49°56'45"N, 56°11'07"W. Height 347 ft. ASL, not obstruction lighted.

HAZARDOUS CABLE CAR CROSSING - NORTH WEST RIVER, LABRADOR

Pilots operating to and from North West River Seaplane Base are hereby cautioned to avoid a cable car crossing at North West River as shown in the sketch below. The supporting towers and the cable are marked with red aviation obstruction lights.



SITE PLAN

Scale 1" 1320'

HAZARD TO AIRCRAFT OPERATIONS - VICINITY WABUSH AIRPORT LABRADOR

Mine blasting is conducted frequently within a 3 square mile area centred at 53°03'30"N Latitude, 66°56'30"W Longitude, approximately 8 statute miles north northwest of Wabush Airport as shown in the following sketch.

In the interest of safety, caution should be exercised against overflying this area below 5500' ASL (3000' above terrain).



NOVA SCOTIA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Barneys River, N. S.	CFXU T V Tower	45°33'	62°16'	503'	1503'
Giezers Hill, N. S.	CJCH TV Tower	44°40'	63°40'	600'	1075'
Halifax, N. S.	CBHT Radio Tower	44°39'	63°39'	500'	950'
Newport Corners, N. S.	Navy Tower	44°58'	63°59'	550'	756'

PRINCE EDWARD ISLAND

Charlottetown, P. E. I.	CFCY TV Tower	46°13'	63°20'	583'	933'
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NEW BRUNSWICK

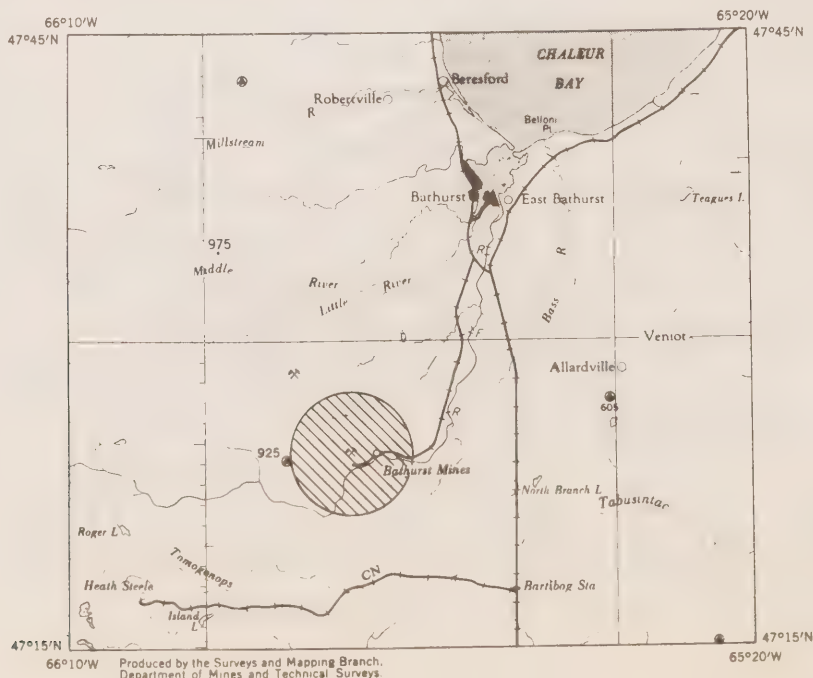
Bon Accord, N. B.	CHSJ TV Tower	46°39'	67°36'	546'	2046'
Campbellton, N. B.	CKAM TV Tower	47°27'	66°25'	775'	2835'
Edmundston, N. B.	CJBR TV 1 Tower	47°23'	68°19'	550'	1750'
Grand Falls, N. B.	CHSJ TV Tower	46°59'	67°31'	585'	2435'

HAZARD TO AIRCRAFT OPERATIONS, BATHURST MINES N. B.

OPEN-PIT MINE BLASTING - 18 MILES SSW BATHURST, N. B.

Blasting is conducted from time to time in the Brunswick Mining and Smelting complex, 47°24'25"N, 65°49'10"W; approximately 18 miles South-Southwest of Bathurst, N. B.

Pilots are cautioned against flying within a three mile radius of this complex at less than 1,000 feet above terrain. The area is depicted on the accompanying sketch.



QUEBEC

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT	HEIGHT ABOVE
		LAT. N.	LONG. W.	ABOVE GRADE	SEA LEVEL
Montreal, Que.	CBF Radio Tower	45°49'	73°18'	596'	622'
Montreal, Que.	CBM Radio Tower	45°26'	73°11'	532'	642'
Rimouski, Que.	CJBR Radio Tower	48°27'	68°35'	504'	604'
Rouyn, Que.	CKRN TV Tower	48°16'	79°03'	730'	1876'
St. Remi, Que.	CJAD Towers	45°15'	73°31'	673'	923'
Temiskaming, Que.	CBFST 1 Tower	46°38'	79°04'	554'	1854'
Trois Rivières, Que.	CKTM TV	46°29'	72°39'	510'	1085'
Ile D'Orleans, Que.	CBVT TV	46°52'	71°05'	554'	979'

TEMPORARY FLIGHT-TEST AREA

To facilitate and expedite the flight-testing of high performance military aircraft a "Temporary Flight-test Area" within the bounds of the following geographical co-ordinates has been established.

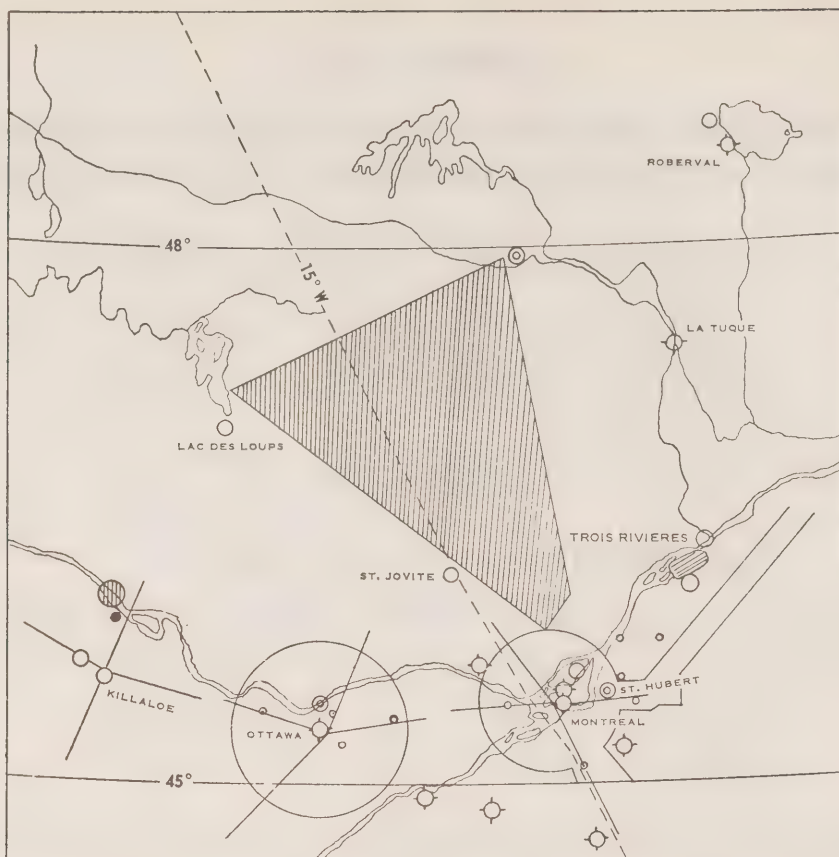
45°53'00"N, 73°52'00"W.
46°02'00"N, 73°42'00"W.
47°56'00"N, 74°06'00"W.
47°22'00"N, 76°25'00"W.

Flight-test programmes in the area will be carried out in accordance with the following stipulations:-

- (a) They will be limited to daylight hours only.
- (b) They will be conducted in VFR weather only.
- (c) They may occupy airspace from the surface to unlimited altitudes.
- (d) Supersonic flights will not be made at altitudes of less than Flight Level 300 and will be limited to the northern extremities of the area only.
- (e) Flights at a low altitude will be limited to a selected area within the larger area.
- (f) All flights will be monitored by GCI radar at all times.

In view of the nature of the operations which will be carried out in this area, all operators and pilots are advised that extreme caution should be exercised when flying within the area during daylight hours.

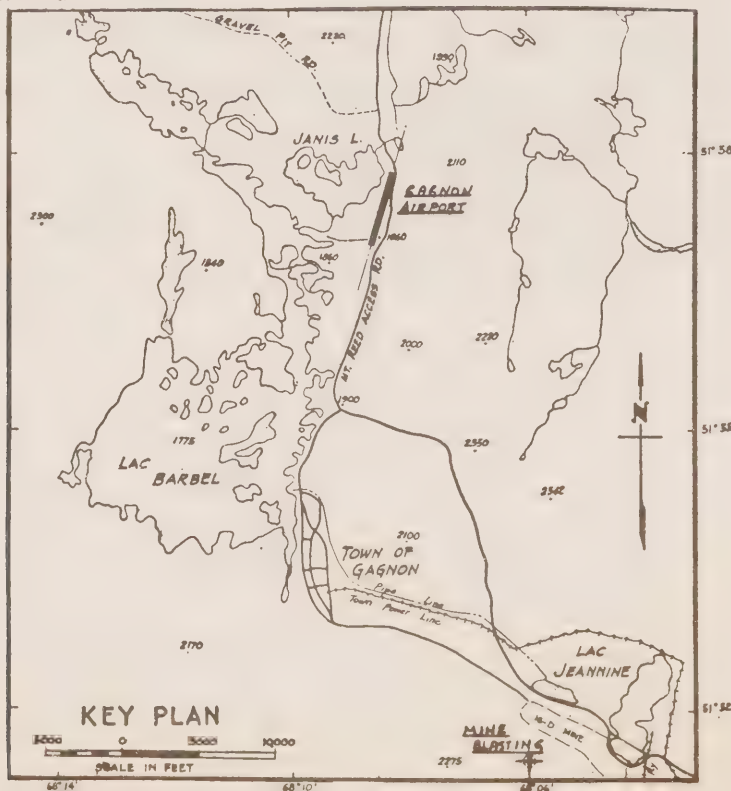
The area is shown in the following sketch and on relevant maps and charts.



HAZARD TO AIRCRAFT OPERATIONS - GAGNON, QUEBEC

Mine blasting is conducted daily at 51°51'29" North Latitude, 68°06'00" West Longitude, approximately 6.5 statute miles south of Gagnon Airport, as shown in the following sketch.

In the interest of safety, caution should be exercised against overflying this location below 5000' ASL (3000' above terrain) within a one mile radius.



OPEN-PIT MINE BLASTING - SHAWVILLE, QUE.

Blasting is likely to occur at any time between 0800 and 1700 local time, daily at the Hilton Mine, 45°30'N, 76°18'W, approximately ten miles southeast of Shawville, Que.

Pilots are cautioned against flying within a three mile radius of this mine at less than 1,000 feet above terrain.

RESTRICTED AREA - LAKE ST. PETER, QUE.

Pilots are reminded that continuous testing of small arms, artillery and rocket ammunition takes place in the Lake St. Peter Restricted Area, map reference C6R20, and prior permission must be obtained from the Inspection Services Proof Establishment at Nicolet, Que. before overflying this area.

This Restricted Area is located seven miles south of the Trois-Rivieres Airport (46°21'N - 72°41'W) and pilots approaching to land or operating in the vicinity of this airport are cautioned to remain well clear of Lake St. Peter.

PARACHUTE JUMPING AREAS - QUE.

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

ST. ANTOINE DES LAURENTIDES, QUE.

From time to time, within that part of the Montreal Control Centre Area located within a two-mile radius of St. Antoine des Laurentides Aerodrome (45°44'48"N, 73°58'15"W). Descents are made from altitudes not exceeding 6000' ASL during daylight hours.

ST. MARIE AERODROME, QUE.

From time to time, at St. Marie Aerodrome within a three mile radius of the aerodrome (45°46'34"N, 74°04'30"W). Descents are made from altitudes not exceeding 6000' ASL during daylight hours.

SWEETSBURG AIRPORT, QUE.

From time to time, at Sweetsburg Airport within a three-mile radius of the airport (45°12'N, 72°40'W). Descents are made from altitudes not exceeding 9500' ASL during daylight hours.

ONTARIO

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT	HEIGHT ABOVE
		LAT. N.	LONG. W.	ABOVE GRADE	SEA LEVEL
Agincourt, Ont.	CFTO TV Tower	43°47'	79°16'	890'	1440'
Barrie, Ont.	CKVR TV Tower	44°21'	79°42'	704'	1704'
Clarkson, Ont.	Brick Company Chimney	43°29'	79°37'	556'	833'

AREA	STRUCTURE	SITE LOCATION		HEIGHT	HEIGHT ABOVE
		LAT. N.	LONG. W	ABOVE GRADE	SEA LEVEL
Copper Cliff, Ont.	Smelter Chimney	46°29'	81°03'	554'	1505'
Cornwall, Ont.	CJSS TV Tower	45°11'	74°32'	700'	900'
Dryden, Ont.	CBWAT 1 Tower	49°46'	92°41'	531'	1845'
Fort Frances, Ont.	CBWAT 3 Tower	48°49'	93°53'	602'	1942'
Hamilton, Ont.	CHCH TV Tower	43°12'	79°46'	1093'	1718'
Hazeldean (Ottawa) Ont.	CJOH TV Tower	45°18'	75°53'	579'	993'
Hearst, Ont.	TV Tower	49°39'	93°31'	503'	1403'
Kingston, Ont.	CKWS TV Tower	44°10'	76°26'	826'	1151'
Kitchener, Ont.	CKCO TV Tower	43°24'	80°38'	655'	2090'
London, Ont.	CFPL TV Tower	42°57'	81°16'	980'	1894'
London, Ont.	CATV TV Tower	42°56'	81°21'	515'	1440'
Ottawa, Ont.	CBOT TV Tower	45°24'	75°45'	501'	701'
Pembroke, Ont.	TV Tower	45°50'	77°10'	580'	1042'
Peterborough, Ont.	CHEX TV Tower	44°20'	78°18'	800'	1800'
Port Arthur, Ont.	CFCJ TV Tower	48°31'	89°07'	707'	2307'
Sturgeon Falls, Ont.	CBFST TV Tower	46°25'	79°56'	537'	1387'
Timmins, Ont.	CBOFT TV Tower	48°28'	81°17'	555'	1689'
Timmins, Ont.	CFCL TV Tower	48°29'	81°20'	528'	1560'
Toronto, Ont.	Office Bldg.	43°39'	79°23'	746'	1009'
Toronto, Ont.	CJBC Radio Tower	43°34'	79°49'	647'	1326'
Toronto, Ont.	CBLT TV Tower	43°40'	79°23'	500'	844'
Windsor, Ont.	CKLW TV Tower	42°19'	83°03'	650'	1250'
Wingham, Ont.	CKNX TV Tower	44°05'	81°12'	650'	1800'

HAZARD TO AIRCRAFT OPERATIONS - TORONTO ISLAND AIRPORT

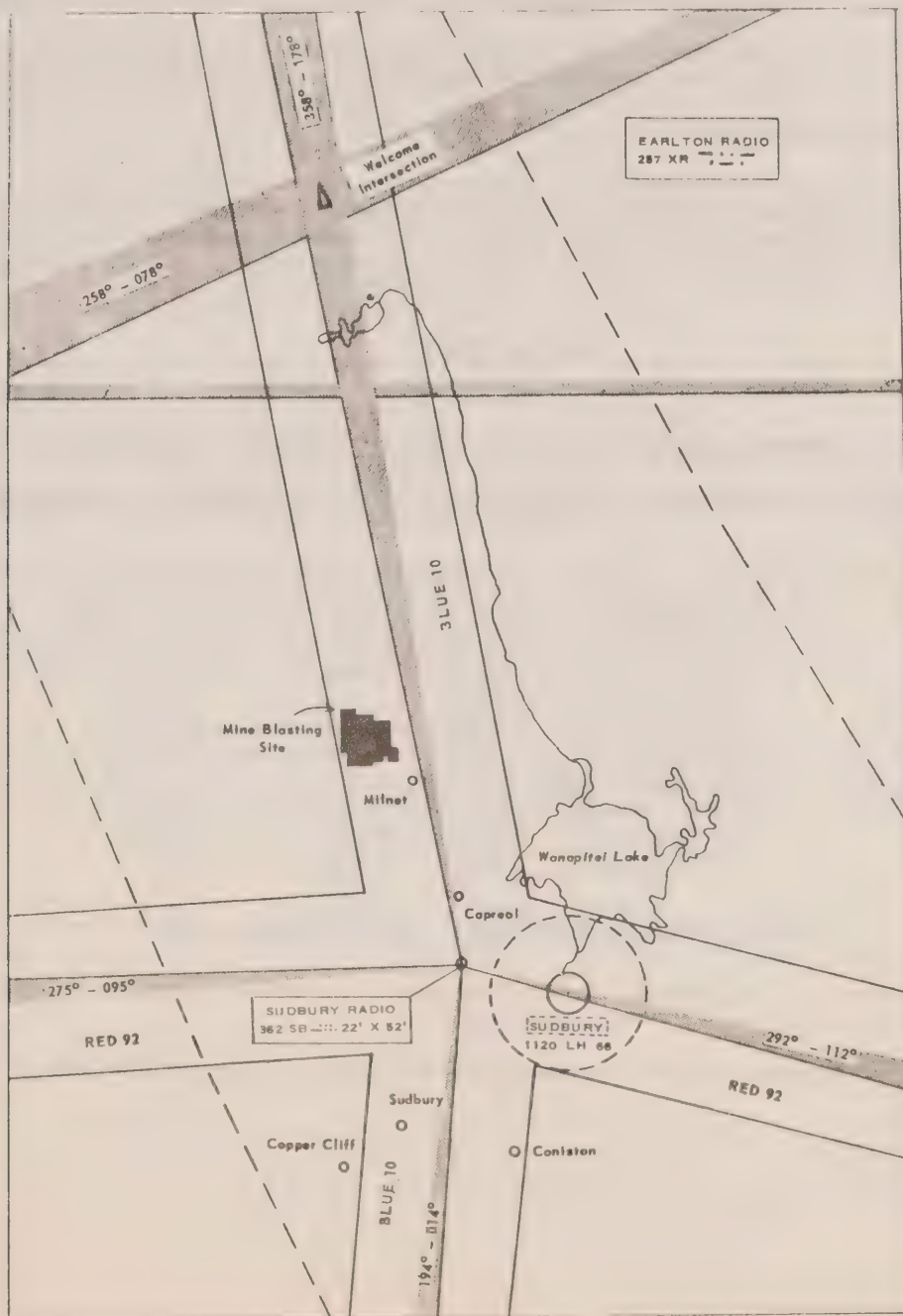
A recent estimate has placed the bird population in the vicinity of Toronto Island Airport at approximately 5000 gulls and 5000 terns. This heavy concentration of birds constitutes a potential hazard to aircraft operations, particularly turbine powered aircraft. Pilots using this airport are advised to exercise caution.

HAZARD TO AIRCRAFT OPERATIONS - SUDBURY, ONTARIO

Open-mine blasting is conducted daily at 46°51' North Latitude, 81°02' West Longitude approximately 19 statute miles northwest of Sudbury Airport, as shown in the following sketch.

In the interest of safety, pilots operating in accordance with the Visual Flight Rules should exercise caution against overflying this location below 4000 feet ASL (3000 feet above terrain) within a three mile radius.

Pilots operating in accordance with the Instrument Flight Rules on Blue Airway 10 between the Sudbury Low Frequency Range and the Welcome Intersection will not normally receive ATC clearance to fly below 4000 feet ASL. However, if IFR flight at 3000 feet ASL is considered necessary pilots can expect to be instructed to remain well to the east of the "on course" between these two locations.



BLASTING OPERATIONS - TIMMINS, ONTARIO

Open-mine blasting is conducted daily at the Texas Gulf open-pit property approximately 8 miles due north of Timmins Airport. Aircraft should refrain from flying low in this area.

PARACHUTE JUMPING AREAS - ONTARIO

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

WATERLOO-WELLINGTON (KITCHENER) ONT.

From time to time, at Waterloo-Wellington Airport within a drop-area located 3 **N M** northeast of the airport (43°27'N, 80°23'W), descents are made from altitudes not exceeding 9000' ASL, during daylight hours.

BALDWIN (NEAR SUTTON) ONT.

Several Parachute Clubs are established in the vicinity of Baldwin Airport and a considerable amount of parachute jumping takes place in this area, off airways, during daylight hours only, from 3000' to 7500' ASL. Descents take place in a rectangular area enclosed by a line beginning at Jackson's Point and extending due south for 8 miles, thence due east for 4 miles, thence due north for 8 miles, thence due west to the point of beginning.

MANITOBA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Baldy Mountain, Man.	CKOS TV-1 Tower	51°28'	100°43'	572'	3297'
Brandon, Man.	CKX TV Tower	49°50'	99°59'	606'	1909'
St. Norbert, Man.	CFMW FM Tower	49°45'	97°09'	555'	1319'
Ste. Agathe, Man.	CJAY TV Tower	49°35'	97°10'	1000'	1775'
Steinbach, Man.	Communications Relay Tower	49°31'	96°40'	550'	1430'
Thomson City, Man.	Smelter Chimney	55°43'	97°52'	500'	1206'
Carman, Man.	CBW Radio Tower	49°31'	97°58'	570'	1430'
Winnipeg, Man.	CBC TV Tower	49°46'	97°31'	1064'	184'

PARACHUTE DROPPING - RIVERS, MANITOBA

Live and heavy parachute dropping exercises are carried out intermittently day and night in the Rivers Control Zone from an altitude of 3000' ASL and below.

All pilots are requested to use extreme caution when flying in this area at 3000' ASL or below.

ROCKET LAUNCHES FROM CHURCHILL, MANITOBA

All operators and pilots are notified that test-firings of rocket propelled vehicles will take place from the vicinity of Churchill, Manitoba, intermittently throughout the year, with the main activity confined to the period November 1st to July 15th annually.

Dependent on the characteristics of each missile, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 30 minutes from the time of launch. The point of impact will lie within one of the following areas:

- Area "A" Is delineated by a line commencing at a point in Latitude 58°56'N, Longitude 94°00'W; thence proceeding due South 57°18'N, 94°00'W; thence due East to the coast and beyond to a point on the sea expanse off Anabusko Islands in Latitude 57°23'N, Longitude 90°15'W; thence to Latitude 57°20'N, Longitude 90°00'W; thence to Latitude 59°46'30"N, Longitude 90°00'W; thence to the point of beginning.
- Area "B" Is delineated by a line commencing at a point in Latitude 58°56'N, Longitude 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence due East to the coast and beyond to a point in the sea expanse off Anabusko Islands in Latitude 57°23'N, Longitude 90°15'W; thence to 55°28'N, 82°00'W; thence due North to 61°27'N, 82°00'W; thence to 58°56'N, 93°10'W; thence to the point of beginning.
- Area "C" Is delineated by a line commencing at a point in Latitude 58°56'N, 94°00'W; thence proceeding due South to Latitude 57°18'N, 94°00'W; thence due East to the coast and beyond to Latitude 57°20'N, 91°08'W; thence to 55°13'N, 82°30'W; thence to 55°28'N, 82°00'W; thence to 58°55'N, 78°28'W; thence due North to 63°15'N, 78°28'W; thence due West to Latitude 63°15'N, 90°00'W; thence to the point of beginning.

At this time, the majority of the rockets it is planned to launch will return to the surface at a point within Area "A", but the trajectory of some types will terminate in Area "B". On a comparatively few occasions, the point of impact will lie within Area "C". It should be noted that Area "B" contains Area "A", while Area "C" contains both "A" and "B". Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the areas during the operations in question and all practicable safety precautions will be taken. No rocket will be launched if it is known that any aircraft or ship is likely to be in such a position that either the trajectory or impact could occasion a hazard.

A Class One NOTAM will be issued approximately 24 hours in advance of each launch and will indicate the area within which the predicted point of impact lies. The airspace associated with the area designated will be released as soon as possible after impact is confirmed, or if the time of launch is delayed for an appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the Hudson's Bay region.

In view of the limited duration of each rocket flight and the safety precautions which will be adopted, it is considered unnecessary for the Areas to be designated as Danger Areas. Operators and pilots should watch for Class One NOTAMS pertaining to rocket launches, and, before traversing any part of the airspace over the areas described above, pilots should communicate with Churchill Radio or Winnipeg Air Traffic Control Centre, either directly or via the normal communications network.

SASKATCHEWAN

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Carlyle Lake, Sask.	CKOS TV 2 Tower	49°44'	102°17'	736'	3261'
Colgate, Sask.	CKCK TV 1 Tower	49°26'	103°48'	581'	2506'
Green Water Lake, Sask.	CKBI TV 3 Tower	52°28'	103°30'	531'	2652'
Marquis, Sask.	CKCK TV 3 Tower	50°39'	103°46'	810'	2810'
Moose Jaw, Sask.	CHAB TV Tower	50°23'	105°56'	580'	2980'
Prince Albert, Sask.	CKBI TV Tower	53°03'	105°51'	584'	2334'
Regina, Sask.	CKCK TV Tower	50°27'	104°30'	670'	2570'
Regina, Sask.	CHRE TV Tower	50°29'	104°30'	736'	2693'
Saskatoon, Sask.	CFQC TV Tower	52°11'	106°23'	650'	2610'
Stranraer, Sask.	CFQC TV 1 Tower	51°41'	108°31'	570'	3123'
Wellowbunch, Sask.	CKCK TV 2 Tower	49°21'	105°38'	677'	3577'
Weyburn, Sask.	COAX TV Tower	49°39'	103°51'	970'	2885'
Wynyard, Sask.	CKOS TV 3 Tower	51°42'	104°18'	531'	2556'
Yorkton, Sask.	CKOS TV Tower	51°12'	102°44'	554'	2304'

ALBERTA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Ashmont, Alta.	CFRN TV Tower	54°08'	111°36'	628'	2754'
Athabasca, Alta.	CBXT TV 1 Tower	54°46'	113°20'	530'	2455'
Bonnyville, Alta.	CHSA TV 2 Tower	54°12'	110°50'	579'	2254'
Calgary, Alta.	CHCT TV Tower	51°04'	114°16'	668'	4843'
Calgary, Alta.	CFCN TV Tower	51°04'	114°10'	517'	4440'
Drumheller, Alta.	CFCN TV 1 Tower	51°34'	112°20'	579'	3500'
Edmonton, Alta.	CBXT TV Tower	53°31'	113°17'	680'	3080'
Grand Prairie, Alta.	CBXAT TV Tower	55°29'	118°45'	542'	3608'
Lacombe, Alta.	CBX Radio Tower	52°26'	113°40'	592'	3482'
Lethbridge, Alta.	CJLH TV Tower	49°43'	112°48'	630'	3650'
Lloydminster, Alta.	CHSA TV Tower	53°24'	110°01'	671'	2821'
Pivot, Alta.	CHAT TV-1 Tower	50°24'	110°03'	529'	3255'

HAZARDS PENDING PUBLICATION ON CHARTS

BRETONA, ALTA.

Two radio towers are located near Bretona, Alta., 53°27'55"N, 113°19'50"W, 235 feet above ground level, 2635 feet above sea level. The towers are painted and lighted.

ON OR NEAR BLUE 84 AIRWAY

Five microwave towers are located on or near Blue 84 Airway between Sharron Intersection and Fort McMurray, Alta., with the following particulars:

	AREA & MARKING	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
1.	26 NM SW Fort McMurray not marked	56°19'39"	111°35'37"	250'	2175'
2.	45 NM SW Fort McMurray not marked	56°05'07"	111°51'52"	225'	2645'
3.	66 NM SW Fort McMurray not marked	55°51'00"	112°10'20"	170'	2485'
4.	9 NM N Sharron Intxn lighted only	55°01'09"	112°30'26"	300'	2160'
5.	43 NM N Sharron Intxn not marked	55°30'50"	112°21'00"	200'	2670'

GROUARD, ALTA.

A TV rebroadcasting tower is located 2 miles northeast of Grouard, Alta., 55°32'26"N, 116°07'26"W, 360 feet above ground level, 2535 feet above sea level. The tower is painted and lighted.

LAC LA BICHE, ALTA.

A VHF tower is located at 55°47'08"N, 112°13'09"W, 200 feet above ground level, 2350 feet above sea level. The tower is painted and lighted.

PARACHUTE JUMPING AREAS - ALBERTA

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

CARSELAND, ALTA.

From time to time, at Barlow's Airstrip located approximately 3 miles north of Carseland, Alta. (50°53'45"N, 113°27'28"W), descents are made from all altitudes and are co-ordinated through Calgary Terminal Control Unit. "Voice Advisories" are issued whenever necessary.

BRITISH COLUMBIA

TRANSMISSION LINE CROSSINGS

This does not cover all cable crossings but only the more hazardous crossings on the West Coast. Pilots should take appropriate precautions when flying in the vicinity of these crossings.

AGAMEMNON CHANNEL, B. C.

49°44'55" north latitude
124°02'30" west longitude
Highest part of supporting structures - 650' ASL
Lowest point of sag in cables - 125' ASL
Marking - Towers obstruction painted, shore markers on
right-of-way at sea level, spherical markers on conductor.

Span 6305'

BARNETT, B. C. (2 crossings separated by $\frac{1}{2}$ mile)

(1) 49°17'30" north latitude
122°55'00" west longitude
Highest part of supporting structures - 334' ASL
Lowest point of sag in cables - 160' ASL
Marking - Towers obstruction painted, no shore markers,
spherical markers on conductor.

Span 2868'

(2) 49°17'30" north latitude
122°54'30" west longitude
Highest part of supporting structures - 540' ASL
Lowest point of sag in cables - 160' ASL
Marking - Towers obstruction painted, spherical markers
on conductor.

Span 3268'

BRIDGE RIVER, B. C.

50°47'10" north latitude
122°13'55" west longitude
Highest part of supporting structures - 2424' ASL
Lowest point of sag in cables - 2178' ASL
Marking - Towers obstruction painted, spherical markers on
conductor, no shore markers.
NOTE: Span is located over a river which is being flooded; ultimately the river will rise to within 38'
of the conductor.

Span 1964'

COLUMBIA RIVER, B. C.

51°25'14" north latitude
118°27'30" west longitude
Highest part of supporting structure - 78' ASL
Lowest point of sag in cables - 50' ASL
Marking - Towers obstruction painted, 1 spherical marker at
centre of conductor.

Span 1000'

DODDS NARROWS, B. C.

49°08'10" north latitude
123°49'00" west longitude
Highest part of supporting structures - 195' ASL
Lowest point of sag in cables - 126' ASL
Marking - Towers obstruction painted, shore markers on right-
of-way at base of towers, spherical markers on conductor.

Span 1400'

FINLAYSON ARM, B. C. (2 spans in parallel)

48°30'05" north latitude
123°32'40" west longitude
Highest part of supporting structures - 830' ASL
Lowest point of sag in cables - 240' ASL
Marking - Towers obstruction painted, no shore markers, spherical
markers on conductor.

Span 3450'

GALIANO - MONTAGUE HARBOUR - CHANNEL - PARKER ISLAND, B.C.

48°53'40" north latitude
123°25'00" west longitude
Highest part of supporting structures - 360' ASL
Lowest point of sag in cables - 125' ASL
This crossing consists of three spans in parallel 80' apart.
Marking - South towers obstruction painted, spherical markers
on south conductor, north towers and north conductor unmarked,
no shore markers

Span 8840'

CLINTON, B.C.

51°05' north latitude
121°36' west longitude
Highest part of supporting structures - 3400' ASL
Lowest point of sag in cables - 3160' ASL
Tower obstruction painted, spherical markers on conductor.

Span 1700'

HARRISON RIVER, B.C.

49°18'10" north latitude
121°48'30" west longitude
Highest part of supporting structures - 900' ASL
Lowest point of sag in cables - 600' ASL
Marking - Towers obstruction painted, shore markers located
on right-of-way at base of towers, spherical markers on conductor.

Span 3694'

JERVIS INLET, B.C.

49°46'30" north latitude
124°07'30" west longitude
Highest part of supporting structures - 1700' ASL
Lowest point of sag in cables - 175' ASL
Marking - Towers obstruction painted, shore markers on right-
of-way at sea level, spherical markers on conductor.

Span 10,100'

KOOTENAY LAKE, B.C.

49°45'39" north latitude
116°07'30" west longitude
Highest part of supporting structures - 3048' ASL
Lowest point of sag in cables - 1865' ASL
Marking - Towers obstruction painted, spherical markers on
conductor.

Span 10,600'

KOOTENAY RIVER, B.C. (2 miles west of Nelson)

49°29'20" north latitude
117°18'45" west longitude
Highest part of supporting structures - 2131' ASL
Lowest point of sag in cables - 1840' ASL
Marking - Towers obstruction painted, pennant type
markers on conductor.

Span 3400'

NICOLA LAKE, B.C. (Two crossings)

(1) 50°09'45" north latitude
120°38'30" west longitude
Highest part of supporting structures - 2104' ASL
Lowest point of sag in cables - 2082' ASL
Marking - Towers obstruction painted, spherical markers
on conductor.
(2) 50°09'25" north latitude
120°36'15" west longitude
Highest part of supporting structures - 2245' ASL
Lowest point of sag in cables - 2083' ASL
Marking - Towers obstruction painted, spherical markers
on conductor.

Span 860'

Span 1341'

NORTHUMBERLAND CHANNEL, B.C. (GABRIOLA ISLAND)

49°08'10" north latitude

123°46'40" west longitude

Highest part of supporting structures

Lowest point of sag in cables

Marking - Towers obstruction painted, shore markers on right-of-way at base of towers, additional shore markers on right-of-way at sea level on west shore. Spherical markers on conductor.

Span 3000'

- 300' ASL

- 90' ASL

PEACE RIVER, B.C.

51°38' north latitude

118°37' west longitude

Marked by orange spheres

Not known

20' above water

PENDER HARBOUR, B.C.

49°37'30" north latitude

124°01'25" west longitude

Highest part of supporting structures

Lowest point of sag in cables

Marking - Towers obstruction painted, spherical markers on conductor, no shore markers.

Span 805'

- 170' ASL

- 115' ASL

SANSUM NARROWS, B.C.

48°49'30" north latitude

123°35'00" west longitude

Highest part of supporting structures

Lowest point of sag in cables

This crossing consists of two sets of towers and conductors in parallel 60' apart.

Marking - South towers obstruction painted, south conductor marked with spheres, north towers and conductor unmarked, shore markers on right-of-way at sea level.

Span 5735'

- 900' ASL

- 200' ASL

SEYMOUR NARROWS, B.C.

50°07'55" north latitude

125°21'10" west longitude

Highest part of supporting structures

Lowest point of sag in cables

Marking - Towers obstruction painted, spherical markers on conductor, no shore markers.

Span 3228'

- 350' ASL

- 160' ASL

FRASER RIVER (at Bridge River, B.C.)

50°45' north latitude

121°56' west longitude

Highest part of supporting structures

Lowest point of sag in cables

Markings - Towers obstruction painted, spherical markers on conductor.

Span 2201'

- 1132' ASL

- 893' ASL

SETON LAKE, B.C.

50°43' north latitude

122°16' west longitude

Highest part of supporting structures

Lowest point of sag in cables

Markings - Towers obstruction painted, shore markers, spherical markers on conductor.

Span 4400'

- 1572' ASL

- 838' ASL

HORNE LAKE, B.C. (2 spans)

49°21' north latitude

124°42' west longitude

Span 5889'

Highest part of supporting structures

- 1174' ASL

Lowest point of sag in cables

- 525' ASL

Markings - Towers obstruction painted, spherical markers
on conductor.

AIRSPACE FOR PROVING RANGE

ESQUIMALT, B.C.

A mortar calibration and proving range has been in intermittent use at Esquimalt, B.C. for some time. However, with the improved characteristics of the equipment used, a need now exists for allocation of airspace to that range, which will be activated by Class I NOTAM for protection of any low flying aircraft in the vicinity.

Airspace is accordingly designated as a DANGER area to a height of 2000 feet for occasional use in the following area:

From the head of RCN Jetty "F" (48°26'29.5"N, 123°26'45.5"W) on a bearing of 110° for 6.4 cables (approx. 4000') at a width of 1000 feet, centred on the bearing line.

PARACHUTE JUMPING AREAS - BRITISH COLUMBIA

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

CHILLIWACK, B.C.

From time to time, at Chilliwack Airport within a drop area located approximately $4\frac{1}{2}$ miles east of the airport at (49°08'30"N, 121°50'30"W), descents are made from altitudes not exceeding 8000' ASL during daylight hours.

ABBOTSFORD, B.C.

Daily from 1600 GMT until dark, descents may be made from 5000 ft ASL. The jump area is located approximately $5\frac{1}{2}$ miles north of the Abbotsford Airport at 49°06'N, 122°20'W and is marked by a large orange cross.

GLACIER NATIONAL PARK - ILLECILLEWAET VALLEY

Pilots are cautioned to avoid flying over the Illecillewaet Valley during winter months as Howitzer type guns will be firing periodically to precipitate snow slides.

BLASTING OPERATIONS AT OPEN-PIT MINES AND QUARRIES IN BRITISH COLUMBIA CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

The following is a list of locations in British Columbia where open-pit mine or quarry blasting operations are conducted. The blasting operations are considered potentially hazardous to aircraft overflying these locations, as flying rock can attain a maximum height of approximately 3,000 feet above ground. The Department is unable to guarantee the completeness of the list and pilots are therefore warned that other such locations may exist. In addition the locations reported should be accepted by pilots as approximate rather than accurate positions.

In the interest of safety, caution should be exercised against overflying these locations at less than 3,000 feet above ground within a one mile radius.

This list will be amended by NOTAM from time to time as required:

<u>GENERAL AREA</u>	<u>SITE LOCATION</u>	
	<u>LAT. N.</u>	<u>LONG. W.</u>
1) Fitz Hugh Sound, B.C. (Koeve River)	51°47'	127°52'
2) Buttle Lake, B.C.	49°46'	125°20'
3) Buttle Lake, B.C.	49°42'	127°17'
4) Texada Island, B.C. (Blubber Bay)	49°47'	124°38'
5) Texada Island, B.C. (Marble Bay)	49°44'	124°37'
6) Texada Island, B.C. (Vananda)	49°45'	124°34'
7) Texada Island, B.C. (Mt. Little Hill)	49°43'	124°35'
8) Texada Island, B.C. (Welcome Bay)	49°42'	124°35'
9) Nelson Island (South End)	49°40'	124°06'
10) Amphitrite Point, B.C.	49°01'	125°28'
11) Woss Lake, B.C.	50°03'	126°50'
12) Queen Charlotte Islands, B.C. (Jedway)	52°18'	131°15'
13) Mt. Mc Dame, B.C.	59°19'	129°47'
14) Cobble Hill, B.C. (9 miles west of Victoria Airport)	48°41'	123°37'
15) Saturna Island, B.C. (18 miles NE of Victoria Airport)	48°47'	123°06'
16) Saltspring Island, B.C.	48°52'	123°29'
17) Pitt Lake, B.C.	49°19'	122°40'
18) Benson Lake, B.C. (Merry Widow Mtn.)	50°20'	127°16'
19) Howe Sound, B.C. (McNab Cr.)	49°34'	123°22'

<u>GENERAL AREA</u>	<u>SITE LOCATION</u>	
	<u>LAT. N.</u>	<u>LONG. W.</u>
20) Indian Arm, B. C.	49°28'	122°51'
21) Agassiz, B. C.	49°13'	121°40'
22) Agassiz, B. C.	49°15'	121°43'
23) Agassiz, B. C.	49°18'	121°38'
24) Oliver, B. C.	49°10'	119°37'
25) Grand Forks, B. C.	49°04'	118°36'
26) Duck Lake, B. C.	49°17'	116°36'
27) Kimberley, B. C.	49°44'	116°01'
28) Cranbrook, B. C.	49°28'	115°32'
29) Lake Windermere, B. C.	50°30'	115°52'
30) Brisco, B. C.	50°49'	116°19'
31) Ashcroft, B. C.	50°30'	120°59'
32) Merritt, B. C.	50°10'	120°55'
33) Kennedy Lake, B. C.	49°03'	125°28'
34) Endako, B. C.	54°05'	125°00'
35) Mt. Washington, B. C.	49°42'	125°14'
36) Scud River, B. C.	57°20'	131°53'

NORTHWEST TERRITORIES

HAZARDS PENDING PUBLICATION ON CHARTS

CAMBRIDGE BAY, N. W. T.

Aerial cable crossing Cambridge Bay near RCM Police Detachment(69°07'15"N, 105°01'00"W). Supporting structures and cables are obstruction marked.

FORT NORMAN, N. W. T.

Aerial cable crossing Great Bear River(64°54'45"N, 125°35'30"W). Supporting structures and cables are obstruction marked.



R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Government
Publications
Aerodromes - Land

21/66.

21st November

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DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

SPECIAL PROCEDURES AND FACILITIES LAND AERODROMES

(Superseding NOTAMS 12/65 and 7/66)

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MAY 30 1969

UNIVERSITY OF TORONTO

SECTION ONE

WINNIPEG TO ATLANTIC OCEAN

ARNPRIOR, ONT. (45° 25'N, 76° 22'W)

The former airport property at Arnprior, Ontario, is now licenced as a private heliport. It is not to be used by conventional aircraft except in an emergency and landings made will be at the risk of the aircraft operator.

BAGOTVILLE, QUE.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 11 and 18.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

BAGOTVILLE CLIMB CORRIDOR

The Bagotville Climb Corridor is centered on the 330°M radial of the Bagotville TACAN and is contained within the following geographical co-ordinates:-

48° 22' 25" N	71° 06' 30" W
48° 36' 50" N	71° 37' 10" W
48° 40' 40" N	71° 32' 40" W
48° 24' 05" N	71° 04' 35" W

The airspace envelope associated with the Bagotville Climb Corridor is:-

Within Area "A", from 2000 feet ASL to Flight Level 250

Within Area "B", from 5000 feet ASL to Flight Level 250

Within Area "C", from 10,000 feet ASL to Flight Level 250

Within Area "D", from 14,000 feet ASL to Flight Level 250

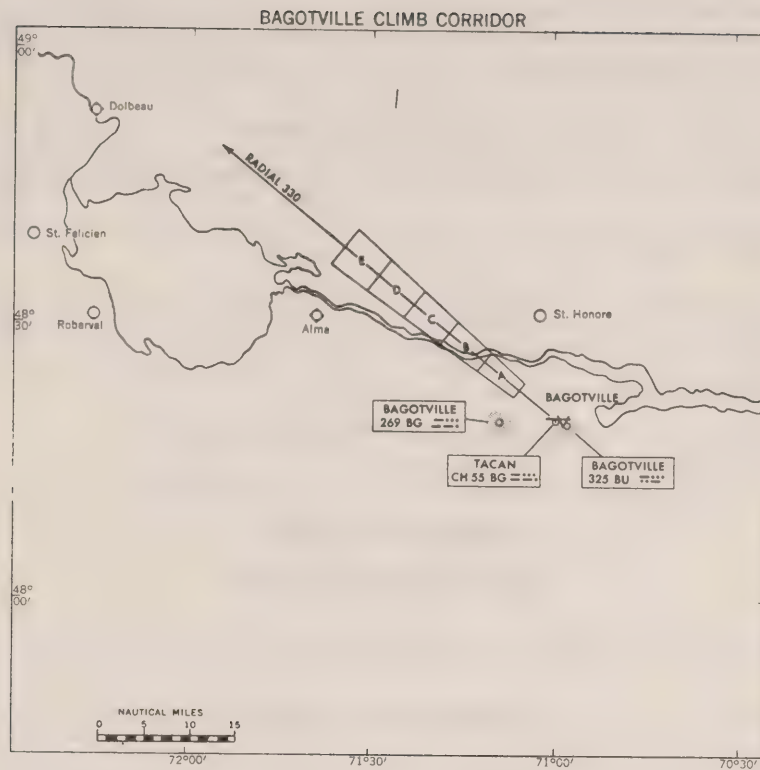
Within Area "E", from Flight Level 190 to Flight Level 250

High performance aircraft using the Climb Corridor will climb from 3,000 feet ASL to Flight Level 250 within the airspace envelope.

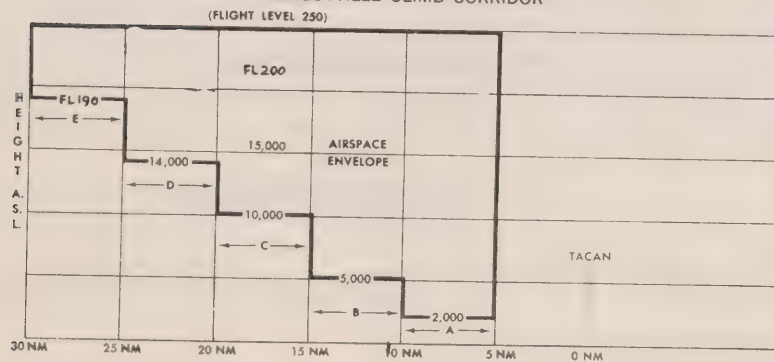
Primarily, the Bagotville Climb Corridor will be used by high performance military aircraft departing Bagotville. However, high performance civil aircraft may also use it with the prior approval of Bagotville Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the Bagotville Climb Corridor should first communicate with Bagotville Terminal Area Control.

(see accompanying charts)



**PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
BAGOTVILLE CLIMB CORRIDOR**



SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within a radius of 40 statute miles of the military Aerodrome at Bagotville, Que.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 40 miles of Bagotville, Que. unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Bagotville Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Bagotville Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military Aerodrome at Bagotville and the approaches to runways thereof.

Primary communications frequencies are as follows:

Bagotville Terminal Control	-- 123.7
Bagotville Tower	-- 121.5, 126.2,

BRAMPTON, ONT.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runways 03 and 14.

BRANTFORD, ONT.

Brantford Aerodrome is periodically the scene of extensive glider flying. Pilots of gliders and tow-planes take off and land on the right hand runway and make right hand circuits.

Pilots of powered aircraft, other than tow planes, are to land and take off on the left hand runway and make left hand circuits. Pilots of visiting aircraft are cautioned to avoid the airspace immediately adjacent and to the right of the runways in use, below an altitude of 2000 feet above the ground.

CARTIERVILLE, QUE.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 24, 28 and 33.

SPECIAL PROCEDURES

No aircraft is to land at Cartierville Airport during the hours when the Cartierville Control Tower is not in operation.

The normal hours of operation of this tower are:

- (a) From June 1 to September 30 - 0700 hours local time to one-half hour after sunset.
- (b) From October 1 to May 30 - 0800 hours local time to one-half hour after sunset.

In the event that it is necessary for a radio-equipped aircraft, normally based at Cartierville, to take off during the hours when the Cartierville Tower is not in operation, it is essential that the pilot establish communication with the Montreal Control Tower while on the ground and obtain approval to enter the airspace in the Montreal Control Zone. In addition, when this approval has been obtained, the pilot is to maintain a listening watch on the appropriate Montreal Control Tower frequency during take-off and while in flight within that zone.

Pilots are cautioned, however, that this permission to operate in the Montreal Control Zone is granted only in relation to other airborne traffic in the zone and is not to be considered as constituting a controller's approval for manoeuvring on Cartierville Airport or for take-off from that airport. It will be the pilot's responsibility in all such cases to ensure that manoeuvring on the ground and take-off from the runway can be done with complete safety.

CHATHAM, N.B.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 16.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within a radius of 45 statute miles of the military Aerodrome at Chatham, N. B.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 45 miles of Chatham, N. B., unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Chatham Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Chatham Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military Aerodrome at Chatham and the area described as follows: the area bounded by a line from Chatham Aerodrome to 47°10'N, 64°50'W; 47°00'N, 64°50'W; to the point of beginning. This area is depicted easterly from the Chatham aerodrome on the Chatham Climb Corridor Chart accompanying.

Primary communication frequencies are as follows:

Chatham Terminal Control -- 123.7

Chatham Tower -- 121.5, 3023.5R, 278T

CHATHAM CLIMB CORRIDOR

The Chatham Climb Corridor, is centered on the 275°M radial of the Chatham TACAN and is contained within the following co-ordinates:

46°59'10"N	65°28'45"W
46°49'45"N	66°02'20"W
46°54'20"N	66°04'40"W
47°01'10"N	65°29'20"W

The airspace envelope associated with the Chatham Climb Corridor is:

In Area "A", (from 1 NM out to 6 NM out) 1500 feet ASL to Flight Level 250

In Area "B", (from 6 NM out to 11 NM out) 5000 feet ASL to Flight Level 250

In Area "C", (from 11 NM out to 16 NM out) 10000 feet ASL to Flight Level 250

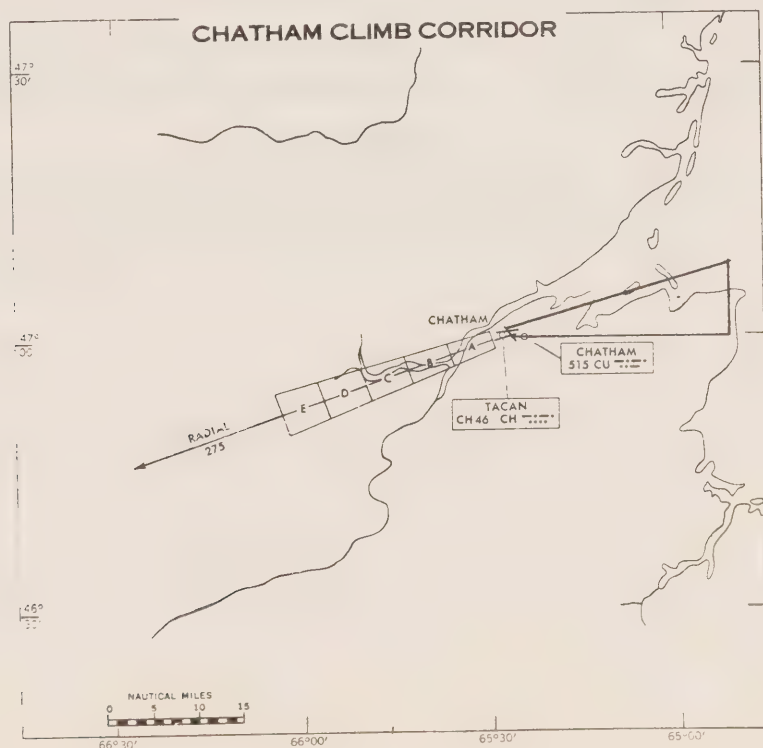
In Area "D", (from 16 NM out to 21 NM out) 14000 feet ASL to Flight Level 250

In Area "E", (from 21 NM out to 26 NM out) Flight Level 190 to Flight Level 250

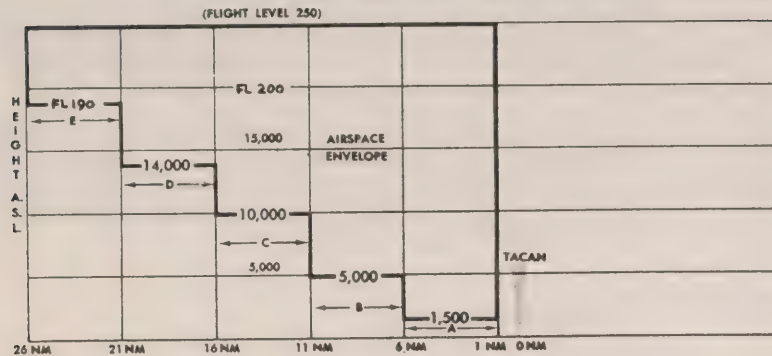
High performance aircraft using the Climb Corridor will climb from 2,000 feet ASL to Flight Level 250 within the airspace envelope.

Primarily, the Chatham Climb Corridor will be used by high performance military aircraft departing Chatham Aerodrome. However, high performance civil aircraft may also use it with the prior approval of Chatham Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the Chatham Climb Corridor should first communicate with Chatham Terminal Area Control. (see accompanying charts)



PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE CHATHAM CLIMB CORRIDOR



CHURCHILL, MAN.

All operators and pilots are notified that test-firings of rocket propelled vehicles will take place from the vicinity of Churchill, Manitoba, intermittently throughout the year, with the main activity confined to the period November 1st to July 15th annually.

Dependent on the characteristics of each missile, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 30 minutes from the time of launch. The point of impact will lie within one of the following areas:

- Area "A" Is delineated by a line commencing at a point in latitude 58°56'N; Longitude 94°00'W; then proceeding due South to 57°18'N, 94°00'W; thence due East to the coast and beyond to a point on the sea expanse off Anabusko Islands in Latitude 57°23'N, Longitude 90°15'W; thence to Latitude 57°20'N, Longitude 90°00'W; thence to Latitude 59°46'30"N, Longitude 90°00'W; thence to the point of beginning.
- Area "B" Is delineated by a line commencing at a point in Latitude 58°56'N, Longitude 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence due East to the coast and beyond to a point in the sea expanse off Anabusko Islands in Latitude 57°23'N, Longitude 90°15'W; thence to 55°28'N, 82°00'W; thence due North to 61°27'N, 82°00'W; thence to 58°56'N, 93°10'W; thence to the point of beginning.
- Area "C" Is delineated by a line commencing at the point 58°56'N, 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence due East to the coast and beyond to 57°20'N, 91°08'W; thence to 55°13'N, 82°30'W; thence to 55°28'N, 82°00'W; thence to 58°55'N, 78°28'W; thence due North to 63°15'N, 78°28'W; thence due West to 63°15'N, 90°00'W; thence to the point of beginning.

At this time, the majority of the rockets it is planned to launch will return to the surface at a point within Area "A", but the trajectory of some types will terminate in Area "B". On a comparatively few occasions, the point of impact will lie within Area "C". It should be noted that Area "B" contains Area "A", while Area "C" contains both "A" and "B". Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the areas during the operations in question and all practicable safety precautions will be taken. No rocket will be launched if it is known that any aircraft or ship is likely to be in such a position that either the trajectory or impact could occasion a hazard.

A Class One NOTAM will be issued approximately 24 hours in advance of each launch and will indicate the area within which the predicted point of impact lies. The airspace associated with the area designated will be released as soon as possible after impact is confirmed, or if the time of launch is delayed for an appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the Hudson's Bay region.

In view of the limited duration of each rocket flight and the safety precautions which will be adopted, it is considered unnecessary for the Areas to be designated as Danger Areas. Operators and pilots should watch for Class One NOTAMS pertaining to rocket launches, and before traversing any part of the airspace over the areas described above, pilots should communicate with Churchill Radio or Winnipeg Air Traffic Control Centre, either directly or via the normal communications network.

GODERICH, ONT.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runways 04 and 33.

GOOSE, NFLD.

GOOSE CLIMB CORRIDOR

The Goose Climb Corridor, is centered on the extended centre-line of Runway 35 at the Goose Airport, and is contained within the following geographical co-ordinates:-

53°23'00"N	60°33'45"W
53°39'00"N	61°05'50"W
53°42'00"N	61°01'15"W
53°24'20"N	60°31'40"W

The airspace envelope associated with the Goose Climb Corridor is:-

Within Area "A", from 5,000 feet ASL to Flight Level 250

Within Area "B", from 6,000 feet ASL to Flight Level 250

Within Area "C", from 10,000 feet ASL to Flight Level 250

Within Area "D", from 15,000 feet ASL to Flight Level 250

Within Area "E", from Flight Level 200 to Flight Level 250

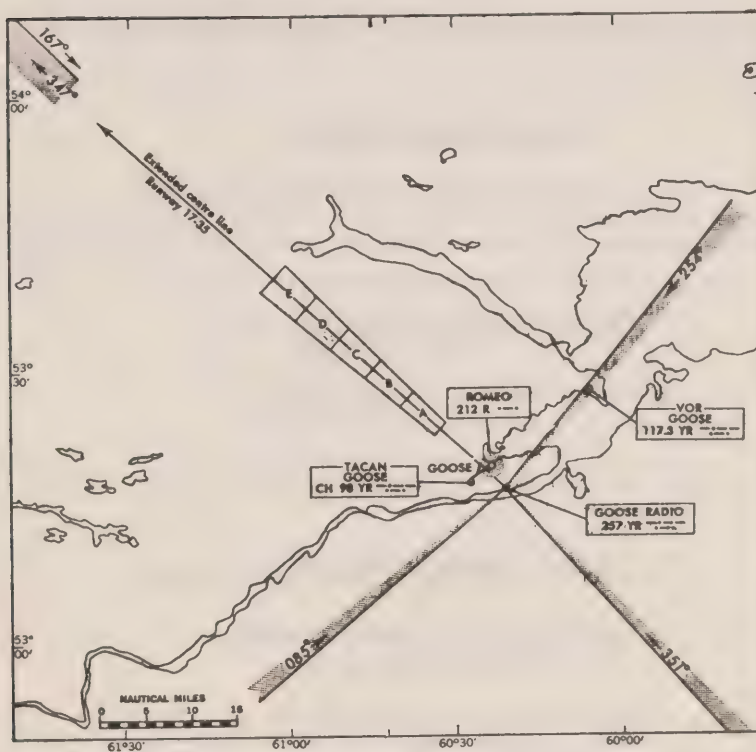
High performance aircraft using the Climb Corridor will maintain 5,000 feet ASL until by the entry point of the Corridor, then climb to Flight Level 250 within the airspace envelope.

Primarily, the Goose Climb Corridor will be used by high performance military aircraft departing Goose Airport. However, high performance civil aircraft may also use it with the prior approval of Goose Terminal Area Control.

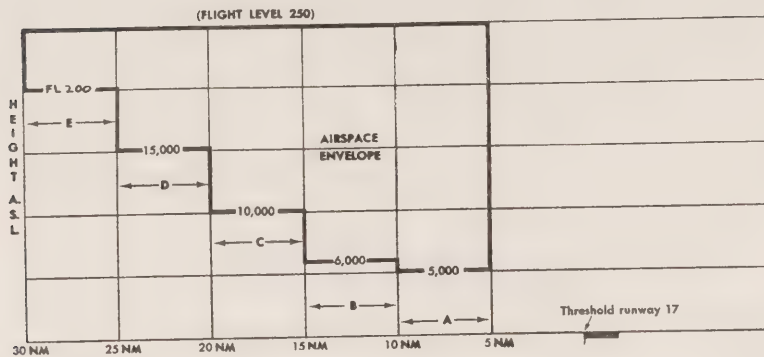
Pilots of aircraft wishing to fly within the airspace envelope of the Goose Climb Corridor should first communicate with Goose Terminal Area Control.

(see accompanying charts)

GOOSE CLIMB CORRIDOR



**PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
GOOSE CLIMB CORRIDOR**



GRAND BEND, ONT.

The Grand Bend Aerodrome located at Lat. 43°17' N; Long. 81°43' W has been closed. The property is now used for automobile racing and is no longer available for aviation purposes.

HALIFAX INTN'L AIRPORT, N.S.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

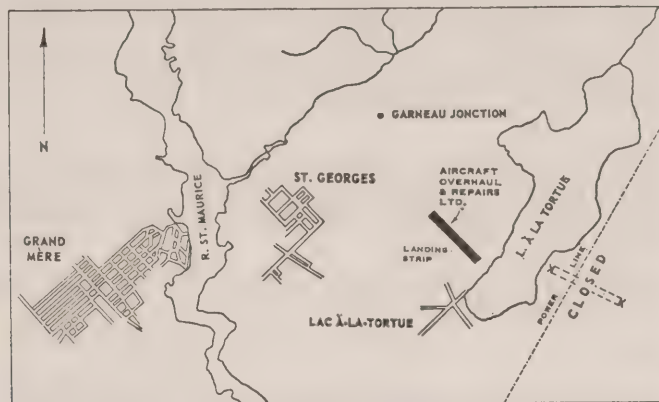
LAC A LA TORTUE, QUE.

DANGEROUS ALIGHTING AREA

Two airstrips are visible from the air at the southerly end of Lac a la Tortue, Quebec:

- The first, on the west side of the lake, is operated by Aircraft Overhaul and Repairs Limited, and appears in the VFR section of the Canada Air Pilot (Latitude 46°37'N; Longitude 72°38'W).
- The second, east of the lake is rendered unsafe for aircraft use by a powerline crossing over the strip at right angles, and has now been marked with a white cross at each end.

Both strips are clearly shown in the accompanying diagram, and pilots are warned that the strip on the east side of the lake is not to be used.



LONDON, ONT.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

MAPLE, ONT.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runways 08, 14 and 23.

MONTREAL INTN'L AIRPORT, QUE.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 06R, 06L and 10.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

The use of Montreal Intn'l Airport for technical stops by turbojet aircraft, other than those engaged in regular scheduled commercial flights serving Montreal, between 2300 and 0700 hrs. local time is not permitted. Late arrivals may be delayed until 0700 hrs. as departure will not be permitted by Airport Authority except in very unusual or extenuating circumstances.

The following portion of this NOTAM shall be applicable to all types of turbojet aircraft. It establishes specific minimum operating altitudes, and specific directions of flight to avoid, insofar as possible, the main residential areas surrounding the airport.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedures set forth below and illustrated on the accompanying charts should be followed unless otherwise instructed by Air Traffic Control:

Preferential Runways

Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operation, from flight over residential areas adjacent to the airport. The Tower will assign runways in the following order of preference whenever practicable:

- (a) Take-offs: 06L, 06R, 28, 24R, 24L
- (b) Landings: 24L, 24R, 28, 06R, 06L
- (c) Maximum effective wind components for use in selecting the preferential runway:
 - (i) The maximum effective cross wind component for take-offs and landings should not exceed 15 knots.
 - (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
 - (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above, shall only be made at the discretion of the pilot.

Departure Procedures

- (a) (i) When weather conditions are not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways until reaching at least 2000' above ground level, i. e. the climb profile for each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement. The initial power reduction should be made prior to crossing residential areas as determined either visually or by time calculation.
- (ii) Departing aircraft required to make a turn after take-off may commence such turn as soon as a safe manoeuvring speed is attained which normally will be at an altitude of not less than 600' above airport elevation.
- (b) Runway 06L and 06R - aircraft will normally be given a straight climb-out on the runway heading until reaching 3000' ASL before proceeding on course.
- (c) Runway 24R and 24L - aircraft taking off on these runways will be given a straight climb-out on the runway heading until reaching at least 3000' ASL or reaching a position over the middle of Lake St. Louis, before proceeding on course.
- (d) Runway 28 - aircraft taking off on this runway will normally be given a right turn on to a heading of 300° Magnetic and should continue climbing until reaching at least 3000' ASL before proceeding on course.

Arrival Procedures

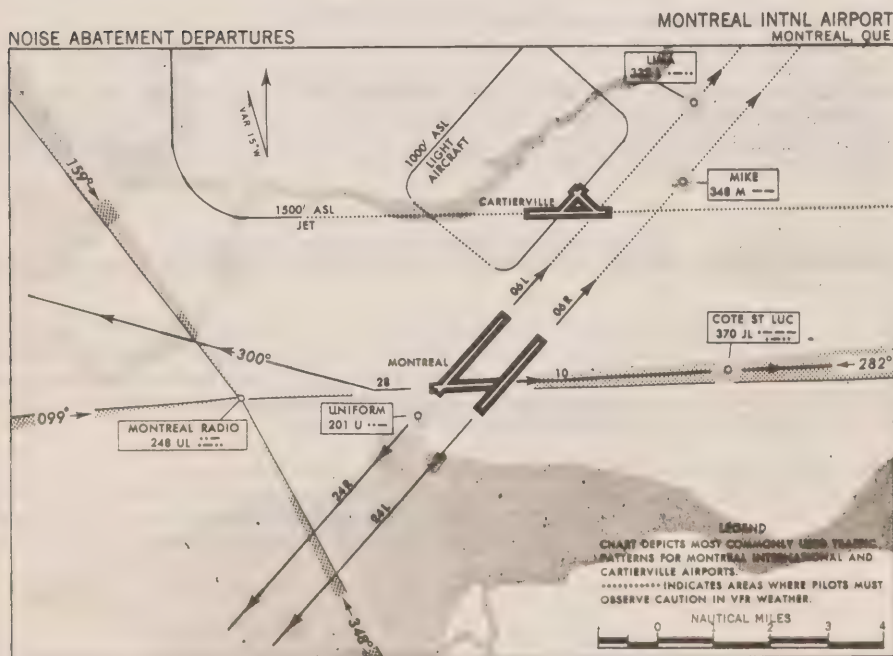
- (a) When weather conditions permit, the minimum circuit height shall be 2000' above airport elevation. Aircraft approaching for a landing shall maintain an initial approach altitude not below 2000' ASL and should hold this altitude as long as possible before commencing final descent to the runway. During final approach every effort should be made to remain on or slightly above the approach slope angle as provided by the ILS Glide Path, VASIS or PAR.
- (b) Turns on to final approach shall be completed not less than 6 nautical miles from the threshold of the runway to be used.
- (c) The use of thrust and the selection of gear and flap settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement during the approach-to-land manoeuvre.
- (d) Airport circuit direction shall be as follows:

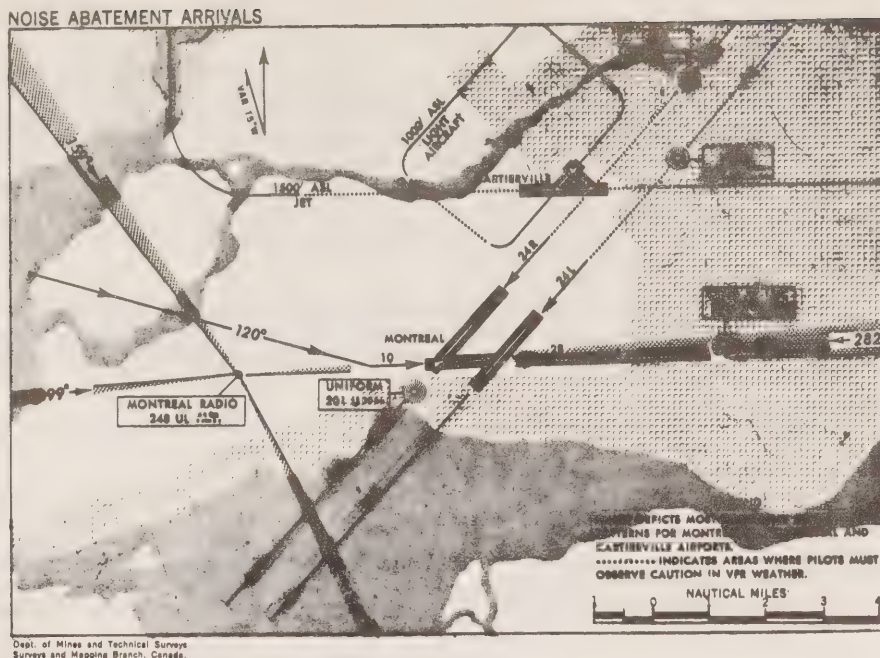
Runways 24L, 24R and 28 - Left Hand

Runways 06L, 06R and 10 - Right Hand

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING
THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE
OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

(see accompanying charts)





**Special Note - Approaches to Runways 24R and 24L.
Departures from Runways 6R and 6L.**

Pilots using Montreal International Airport are cautioned to keep a sharp look-out when operating in the 24R and 24L flightways (06R and 06L take-off/climb areas) during visual flight conditions, for military jet and light and heavy civil aircraft, operating VFR to and from Cartierville Airport located 3 nautical miles northeast of Montreal International Airport.

MINIMUM AIRCRAFT RADIO EQUIPMENT - MONTREAL AIRPORT CONTROL ZONE

The intentional use of controlled airspace within a 10 mile radius of Montreal International Airport, (encompassing Montreal International Airport, Cartierville Airport and water operations on adjacent rivers), is restricted to aircraft equipped with a functioning radio transmitter and receiver which will permit two-way communication with the appropriate control tower.

Primary VHF frequencies for communication with control towers are:

	Air Control	Ground Control
Cartierville Tower	118.7	121.7
Montreal Tower	119.1	121.9

Seaplane operators using the rivers in this area are reminded of their responsibility to ascertain that VFR weather conditions prevail before take-off. This can be accomplished by communication with the nearest control tower.

MOUNTAIN VIEW, ONT.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

Mountain View Aerodrome is located within the Trenton Terminal Control Area (35 nautical miles radius of Trenton Aerodrome, excluding DOT controlled airspace). Extensive day and night military air operations are conducted within this area and a large number of military aircraft (jet and piston) use Mountain View on a non-scheduled basis.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within this control area unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Trenton Control Tower or Terminal Control; and
- (c) a listening watch is maintained on a frequency assigned by the Trenton Control Tower or Terminal Control.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military aerodromes at Trenton and Mountain View.

Primary communication frequencies are as follows:

Trenton Tower	126.2	121.9
Trenton Terminal Control	121.2	137.7

NORTH BAY, ONT.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 26.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NORTH BAY CLIMB CORRIDOR

The North Bay Climb Corridor is relocated to a position two nautical miles northwest of its former location. Although still centered on the 325°M radial of the North Bay TACAN, this Climb Corridor is now contained within the following geographical co-ordinates:-

46°29'40"N	79°38'30"W
46°46'20"N	80°05'52"W
46°49'55"N	80°00'40"W
46°31'10"N	79°36'35"W

The airspace envelope associated with the North Bay Climb Corridor is:-

Within Area "A", from 2,000 feet ASL to Flight Level 230

Within Area "B", from 6,000 feet ASL to Flight Level 230

Within Area "C", from 11,000 feet ASL to Flight Level 230

Within Area "D", from 15,000 feet ASL to Flight Level 230

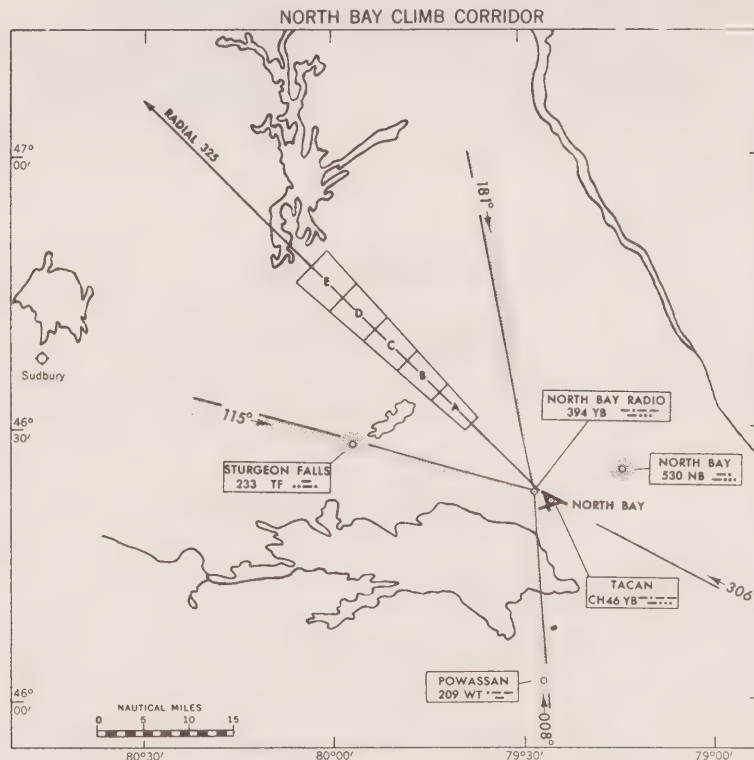
Within Area "E", from Flight Level 200 to Flight Level 230

High performance aircraft using the Climb Corridor will climb from 3,000 feet ASL to Flight Level 230 within the airspace envelope.

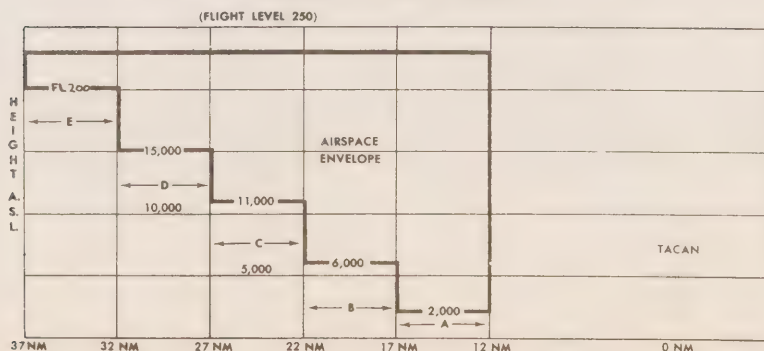
Primarily, the North Bay Climb Corridor will be used by high performance military aircraft departing North Bay. However, high performance civil aircraft may also use it, with the prior approval of North Bay Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the North Bay Climb Corridor should first communicate with North Bay Terminal Area Control.

(see accompanying charts).



PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
NORTH BAY CLIMB CORRIDOR



OTTAWA INTN'L AIRPORT, ONT.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 07, 14 and 22.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - OTTAWA INTN' L AIRPORT

An experimental air traffic control environment is in effect at the Ottawa International Airport. This experiment was introduced to evaluate procedures and methods designed to increase flight safety and promote a more orderly flow of traffic.

The Ottawa International Airport Special Procedures Order (Air Navigation Order, Series V, No. 18) has been developed in support of this experiment and all pilots intending to operate within the Ottawa Special Procedures Area should pay particular attention to this Order and be aware of the following:

- (a) The Ottawa Special Procedures Area is the airspace below 9,500 feet ASL within a radius of 15 statute miles of the centre of the Ottawa International Airport.
- (b) The Ottawa Special Procedures Area does not include - the airspace within a 5 mile radius of Carp Airport - the airspace below 2,000 feet ASL within the Rockcliffe Control Zone - the airspace below 1,000 feet above ground level north of the south shore of the Ottawa River.
- (c) Aircraft must not be flown in VFR flight within the Ottawa Special Procedures Area unless equipped with serviceable two-way radio and unless a continuous listening watch is maintained on a radio frequency designated by the Ottawa Tower.
- (d) Aircraft must not be flown in VFR flight within the Ottawa Special Procedures Area unless a clearance has been obtained from the Ottawa Tower. (Prior to entering the Ottawa Special Procedures Area, pilots of VFR flights should contact the Tower on 123.8 mcs. or 395.6 mcs.).
- (e) Aircraft must not be flown in the Ottawa Special Procedures Area in excess of 250 knots IAS unless the flight is made within the Departure Channel.
- (f) Aircraft must not be flown in excess of 190 knots IAS when below 2,000 feet ASL within a radius of five statute miles of the centre of the Ottawa International Airport.
- (g) Military aircraft of the Century Class, (i.e., F101, F104 etc.) may be operated at speeds in excess of those prescribed in (e) and (f) above.

Recognizing that aircraft not equipped with functioning two-way radio may, under exceptional circumstances, have reason to fly within the Ottawa Special Procedures Area, the Chief, Ottawa Air Traffic Control Unit, may, on application, grant written authorization to permit such flights.

The VFR pilot who obtains a clearance to enter the Ottawa Special Procedures Area with the intention of landing at Ottawa International Airport will be advised of the runway in use, the surface wind, the current altimeter setting and of pertinent traffic in the area. He will then be given a route to the point where he is to enter the airport traffic circuit, or he may be instructed to hold over one of the visual check points shown in the attached map to await further instructions.

Simulated instrument approaches will not be authorized within the Ottawa Special Procedures Area when:

- (a) Other approaches are being conducted in accordance with the Instrument Flight Rules and ceiling and visibility are below 3,000 feet ASL and 5 miles, or
- (b) When such approaches would conflict with normal circuit traffic.

OTTAWA SPECIAL PROCEDURES AREA

Scale 1:250,000



Description of Visual Check Points

- ① Cyrville drive-in theatre 7 mi. E.N.E.
- ② Gloucester water tower 6 mi. E.S.E.
- ③ Town of Manotick 7mi. S.S.W.
- ④ Britannia drive-in theatre 7 mi. W.N.W.

RESOLUTE, N.W.T.

USE OF RESOLUTE AIRPORT N.W.T.

Resolute Airport is operated and maintained by the Civil Aviation Branch of the Department of Transport. The Regional Director of Air Services, Department of Transport, 502 General Post Office Building, Winnipeg, Manitoba, is responsible for the overall control, operation and usage of this Airport.

The Airport and base facilities are scaled and maintained to support Government Agencies and their subsidiaries engaged in planned scientific programs. Assistance such as refuelling services, ground handling, personnel transportation, accommodation, messing etc., can only be provided to aircraft and personnel not associated or engaged in support of these programs on an "as available" basis.

It is of particular importance that Federal Agencies planning exploration, survey, scientific and other programs, who wish to obtain permission to use the facilities at Resolute Airport should make their needs known to the Regional Director of Air Services, Winnipeg, well in advance. Normally a request should precede the activity by one year and preferably by not less than six months. This will allow coordination of all user requirements so that the available facilities are utilized to the greatest advantage and at times when such services and facilities are more readily available.

Aircraft operators who regularly use Resolute Airport should continue to keep the Regional Director advised of their ground support requirements at Resolute; if they require additional assistance for any flight over and above that already agreed upon, they should advise the Airport Manager at least 48 hours in advance of the estimated time of arrival of the aircraft at Resolute. All other aircraft operators who may be anticipating the use of Resolute Airport and its facilities must make application and state their requirements to the Regional Director at least two weeks prior to the estimated arrival date. Aircraft operators and Captains of aircraft should note that it is their responsibility to comply with the terms of this NOTAM rather than that of the chartering agency. Each request for support must contain:

- (a) Aircraft type.
- (b) Ownership.
- (c) Purpose of flight, including details of Government sponsorship if applicable.
- (d) Estimated time, date and place of departure.
- (e) Estimated time of arrival at Resolute Airport.
- (f) Anticipated fuel, messing, accommodation, ground and cargo handling requirements.
- (g) Number of personnel on board.
- (h) Length of stay, showing inclusive dates.

In reply to each request the Regional Director of Air Services will provide details of the assistance, if any, that can be provided.

All aircraft operators and others who receive authority to use Resolute Airport and/or base facilities must establish credit prior to arriving at Resolute or be prepared to pay cash for all services and materials received, including aviation fuel and oil if supplied. Credit arrangements should be made with Imperial Oil Ltd., in advance of the trip and assurance obtained that the quantity and types of fuel required will be available.

Aircraft operators and Agencies should note that messing, accommodation, other facilities and services are in short supply at Resolute during the following periods and they should plan their schedules to avoid these dates if possible:

- | | |
|--------------------|--------------------------|
| (a) Spring Airlift | April 20 - 30 |
| (b) Summer Sealift | August 10 - September 15 |
| (c) Fall Airlift | September 15 - 30 |

NOTE - Pilots are requested to call the aeradio station at least 10 minutes before landing, and before taxiing out for take-off in order that equipment working on the runway may be removed.

STE. ANNE DES MONTS, QUE.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 33.

SHEARWATER, N.S.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 16R and 34R.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

TORONTO INTN'L AIRPORT, ONT.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 14, 23L, 23R, and 28.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

The following portion of this NOTAM shall be applicable to all types of Turbojet aircraft. It establishes specific minimum operating altitudes, and specific directions of flight to avoid, insofar as possible, the main residential areas surrounding the airport.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedures set forth below and illustrated on the accompanying charts should be followed unless otherwise instructed by Air Traffic Control:

Preferential Runways

Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operations, from flight over residential areas adjacent to the airport. The tower will assign runways in the following order of preference whenever practicable:

- (a) Take-Offs: 23L, 32, 14, 05R, 28
- (b) Landings: 05R, 14, 32, 23L, 10
- (c) Maximum effective wind components for use in selecting the preferential runway:
 - (i) The maximum effective crosswind component for take-offs and landings should not exceed 15 knots.
 - (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
 - (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above, shall only be made at the discretion of the pilot.

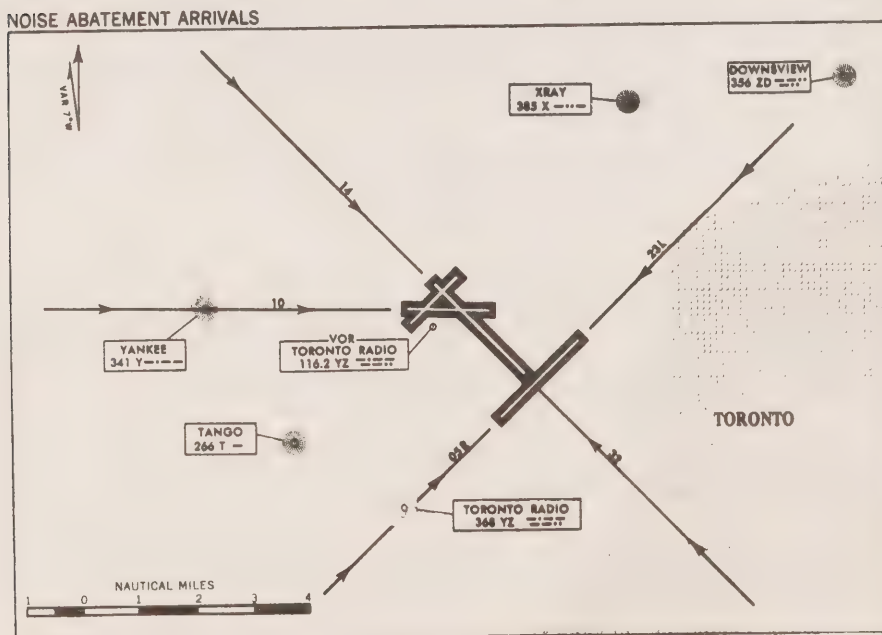
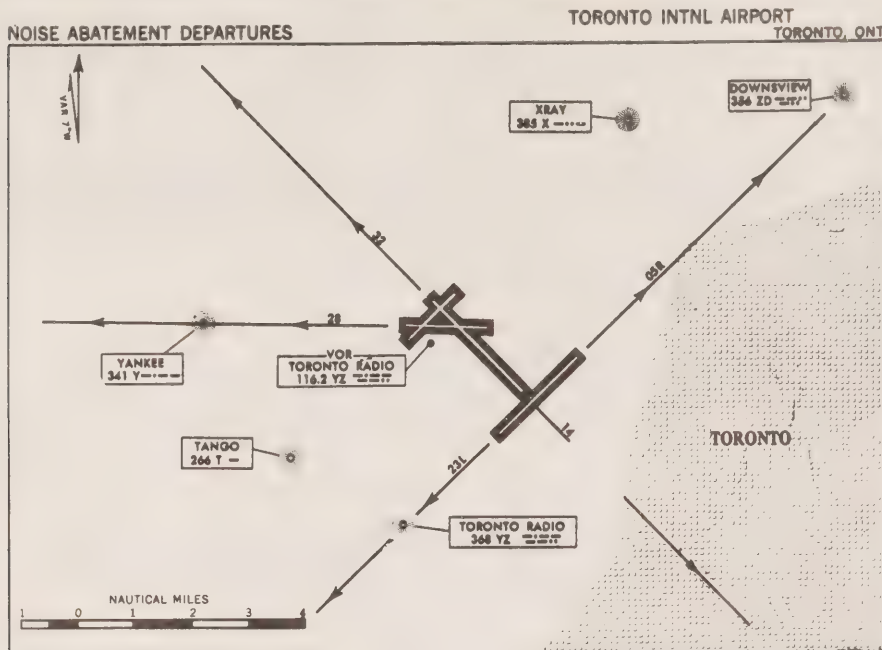
Departure Procedures

- (a) When weather is not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways until reaching at least 2000' above ground level, i.e. the climb profile for each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement. The initial power reduction should be made prior to reaching residential areas as determined either visually or by time calculation.
- (b) Departing aircraft shall make a straight climb-out on the runway heading until reaching at least 3000' ASL before proceeding on course.

Arrival Procedures

- (a) When weather conditions permit, the minimum circuit height shall be 2000' above airport elevation. Aircraft approaching for a landing shall maintain an initial approach altitude not below 2500' ASL and should hold this altitude as long as possible before commencing final descent to the runway. During final approach every effort should be made to remain on or slightly above the approach slope angle as provided by the ILS Glide Path, VASIS or PAR.
- (b) Turns onto final approach shall be completed not less than 6 nautical miles from the threshold of the runway to be used. For runway 32, this manoeuvre shall be completed over Lake Ontario before crossing the shoreline inbound.
- (c) The use of thrust and the selection of gear and flap settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement during the approach-to-land manoeuvre.
- (d) Airport circuit direction shall be as follows:
 - Runways 32, 10, 05R - Left Hand
 - Runways 14, 23L, 23R, 28 - Right Hand

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.



TORONTO ISLAND, ONT.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 06, 08 and 15.

Caution: Building 1134' ASL 1.25 miles NE.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

VAL D'OR, QUE.

VAL D'OR CLIMB CORRIDOR

The Val d'Or Climb Corridor, is centered on the 030°M radial of the Val d'Or TACAN and is contained within the following co-ordinates:

48°08'15"N	77°46'40"W
48°32'35"N	77°37'40"W
48°31'05"N	77°30'30"W
48°07'40"N	77°43'35"W

The airspace envelope associated with the Val d'Or Climb Corridor is:-

Within Area "A", from 2,000 feet ASL to Flight Level 250

Within Area "B", from 6,000 feet ASL to Flight Level 250

Within Area "C", from 11,000 feet ASL to Flight Level 250

Within Area "D", from 15,000 feet ASL to Flight Level 250

Within Area "E", from Flight Level 180 to Flight Level 250

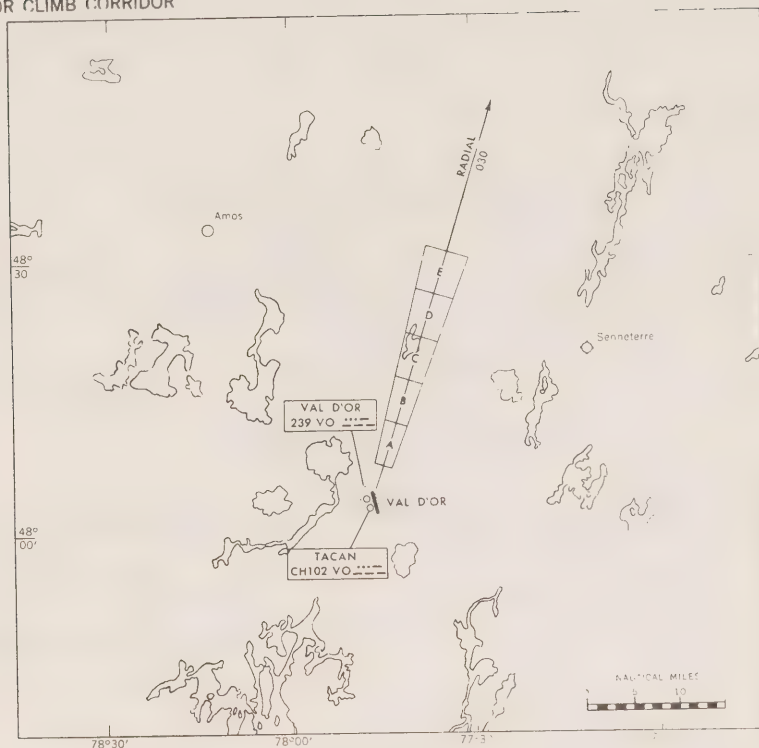
High performance aircraft using the Climb Corridor will climb from 3,000 feet ASL to Flight Level 250 within the airspace envelope.

Primarily, the Val d'Or Climb Corridor will be used by high performance military aircraft departing Val d'Or Aerodrome. However, high performance civil aircraft may also use it, with the prior approval of Val d'Or Terminal Area Control.

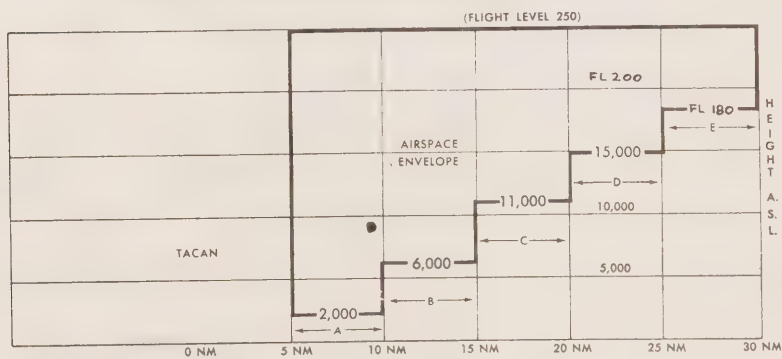
Pilots of aircraft wishing to fly within the airspace envelope of the Val d'Or Climb Corridor should first communicate with Val d'Or Terminal Area Control.

(see accompanying charts)

VAL D'OR CLIMB CORRIDOR



PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE VAL D'OR CLIMB CORRIDOR



WINDSOR, ONT.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SECTION TWO

WINNIPEG TO PACIFIC OCEAN

ABBOTSFORD, B.C.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 06.

ALASKA HIGHWAY FLIGHT STRIPS.

The following emergency flight strips along the Alaska Highway between Fort St. John, B.C. and Snag, Y. T., will be maintained for day operations only from May 1st to October 31st. From November 1st to April 30th, no winter maintenance will be carried out.

Sikanni Chief	Pon Lake
Prophet River	Burwash Landing
Pine Lake	Liard River
Squanga Lake	

CALGARY MUNICIPAL AIRPORT, ALTA.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 25, 29 and 34.

MINIMUM AIRCRAFT RADIO EQUIPMENT

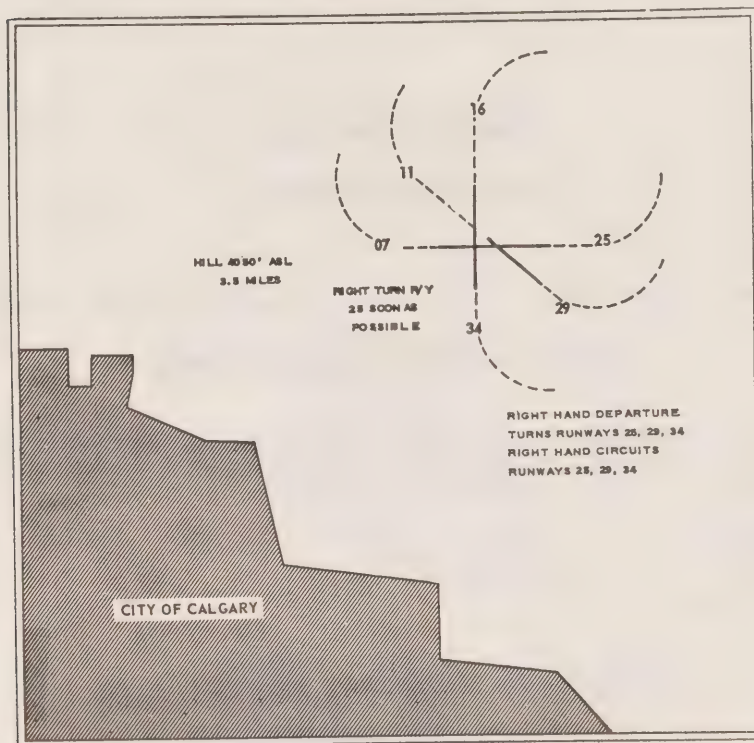
Aircraft taking off or landing must be equipped with serviceable two-way radio.

In order to lessen aircraft noise over populated areas of the City of Calgary, the following procedures shall apply within the Calgary, Alta., control zone:

- (i) Low turns, low approaches and low-level flights over populated areas are to be kept to the minimum consistent with safe operation.
- (ii) Minimum circuit height for all aircraft shall be 4,550 feet ASL (at least 1000 feet above ground), when the ceiling is 1500 feet or more above ground.
- (iii) All aircraft using Runways 25, 29 and 34, or associated grass areas, shall make right hand circuits.

- (iv) All aircraft using Runways 07, 11 and 16, or associated grass areas, shall make normal left hand circuits.
- (v) Right turns off Runway 25 should be commenced as soon as practicable in order to avoid built-up areas on the runway heading.

CALGARY, ALTA.



CAMBRIDGE BAY, N.W.T.

Limited facilities only are available at the Cambridge Bay Airport, N. W. T.

Aircraft operators desiring to conduct a continuous operation from Cambridge Bay are advised to contact the local Imperial Oil Agent in order to ensure sufficient reserve fuel and oil is available.

Aircraft owners and/or operators proposing to visit the site regardless of the length of the stop-over should make prior inquiries through the Imperial Oil Agent regarding sleeping accommodation and meals.

In the event of an emergency or by prior arrangement, the Department of Indian Affairs and Northern Development may be able to provide assistance with respect to local transportation, meals and sleeping accommodation for itinerants. All inquiries are to be directed to the:

Area Administrator,
Department of Indian Affairs & Northern Development,
Cambridge Bay, Northwest Territories.

To assist operators desiring to ship supplies to Cambridge Bay, the latest date for the acceptance of goods at the following shipping points are:

Waterways, Alta.	- not later than June 15th
Hay River, N. W. T.	- not later than July 15th
Norman Wells, N. W. T.	- not later than July 20th
Tuktoyaktuk (Tuk-Tuk) N. W. T.	- not later than July 25th

Operators shipping such supplies are reminded that these dates are approximate only and all inquiries regarding accurate schedules, etc. should be directed to the:

Traffic Manager,
Northern Transportation Co. Ltd.,
10040 - 105 Street,
Edmonton, Alberta.

Day-Glo markers have been installed on the approach centre-line to RNWYS 09 and 27, also at the threshold to RNWY 09 Cambridge Bay Airport.

CASTLEGAR, B.C.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 15.

COLD LAKE, ALTA.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within a radius of 60 nautical miles of the military Aerodrome at Cold Lake, Alta.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 60 miles of Cold Lake, Alta. unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Cold Lake Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Cold Lake Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military Aerodrome at Cold Lake.

The foregoing does not apply to that part of the Primrose Lake, Alta. and Sask. Restricted Area lying within 60 miles of Cold Lake. No aircraft may be flown within the Primrose Lake Restricted Area except with the permission of the Control Tower, Cold Lake (Air Navigation Order, Series V, No. 9).

Primary communications frequencies are as follows:

Cold Lake Tower -- 121.5, 126.2, 3023.5R, 212T

COMOX, B.C.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within the Comox Control Zone (5 statute miles radius of the Aerodrome, Comox, B.C.).

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within this Control Zone unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Comox Control Tower, and
- (c) a listening watch is maintained on a frequency assigned by the Comox Control Tower.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this Control Zone is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military Aerodrome at Comox.

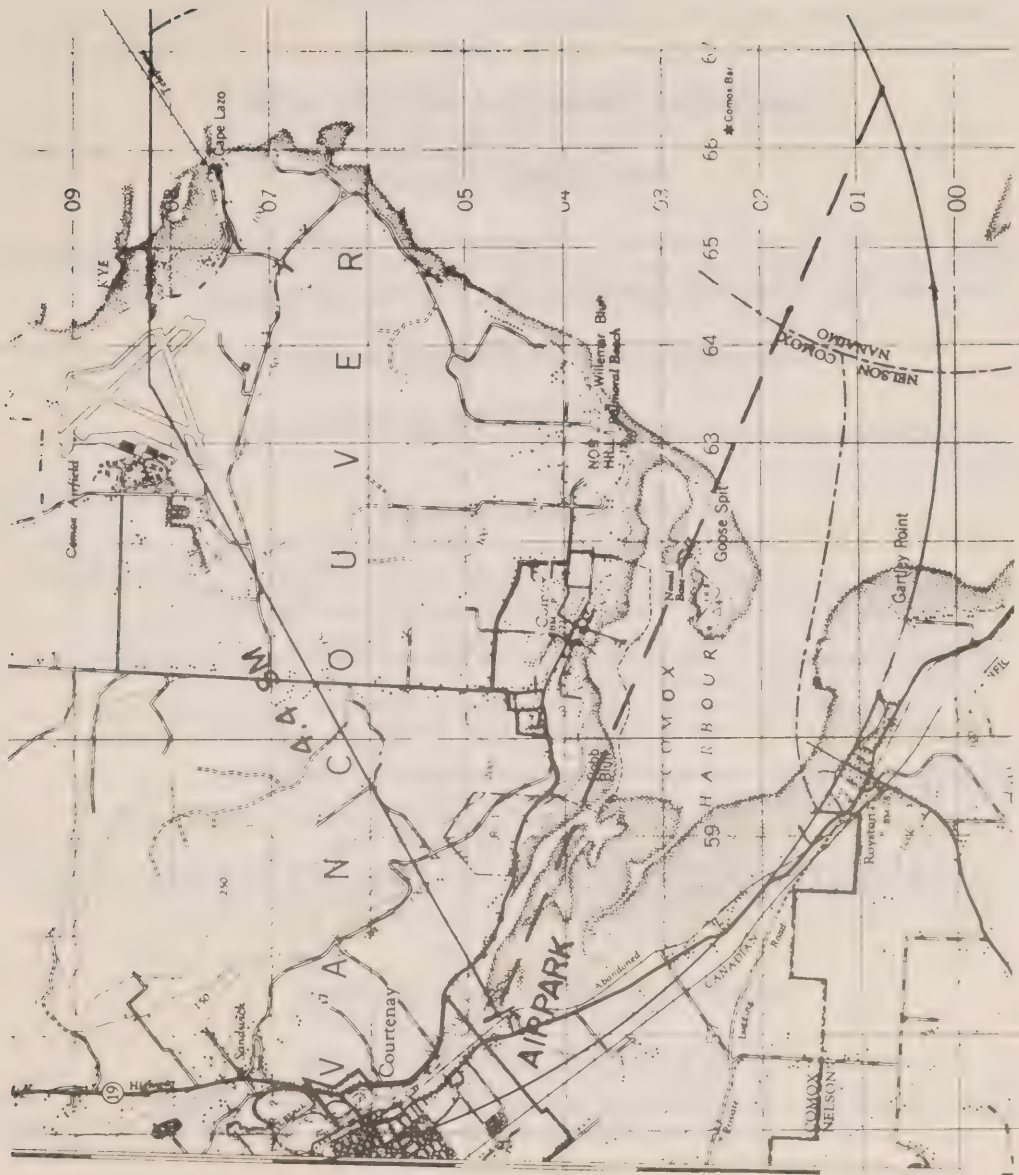
The foregoing does not apply to aircraft using the Courtenay Air Park Aerodrome and the Comox Harbour Water Aerodrome provided:

- (a) these aircraft operate not above 1,000 ASL; and
- (b) all flights are confined to the airspace south of a line joining the mouth of the Courtenay River, the Naval Base on Goose Spit and the Comox Control Zone boundary as depicted below.

Primary radio frequencies to be used for communicating with Comox Control Tower are as follows:

126.2, 118.4T, 122.5R, 3023.5R, 278T.

(see accompanying chart)



DRUMHELLER, ALTA.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 16.

EDMONTON INDUSTRIAL AIRPORT, ALTA.

RIGHT HAND CIRCUITS

Light aircraft using the grass area for landings and take-offs at the Edmonton Industrial Airport are to make right hand circuits when runways 15 or 29 are in use for other aircraft.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

In order to minimize the noise disturbance created by aircraft operations, the procedures set forth below are to be followed unless otherwise directed by Air Traffic Control:

Runway 11 and Runway 21 - No "touch-and-go" landings or take-offs are permitted on these runways or on the adjacent grass areas.

Runway 15-33 - to be used during calm (no wind) conditions.

Runway 29 - Aircraft gross weight for landing is restricted to 30,000 lbs.

Runway 11 - Aircraft gross weight for landing and take-off is restricted to 12,500 lbs.

The ILS Missed Approach Procedure - is to be commenced at the Middle Marker, as published in the Canada Air Pilot. No descent below the published minimum altitude is permitted on practice approaches unless a full-stop landing is intended.

EDMONTON INTN'L AIRPORT, ALTA.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

GIBSONS - SECHLT, B.C.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 11.

GIMLI, MAN.

RIGHT HAND CIRCUITS

Unless otherwise authorized, right hand circuits are in effect for runways 32R and 14R.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within the Gimli Control Zone and Terminal Control Areas.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within these areas unless:

- a. the aircraft is equipped with serviceable two-way radio;
- b. a clearance has been received from Gimli Control Tower or Terminal Control Unit; and
- c. a listening watch is maintained on a frequency assigned by the Gimli Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military aerodrome at Gimli.

Primary communication frequencies are as follows:

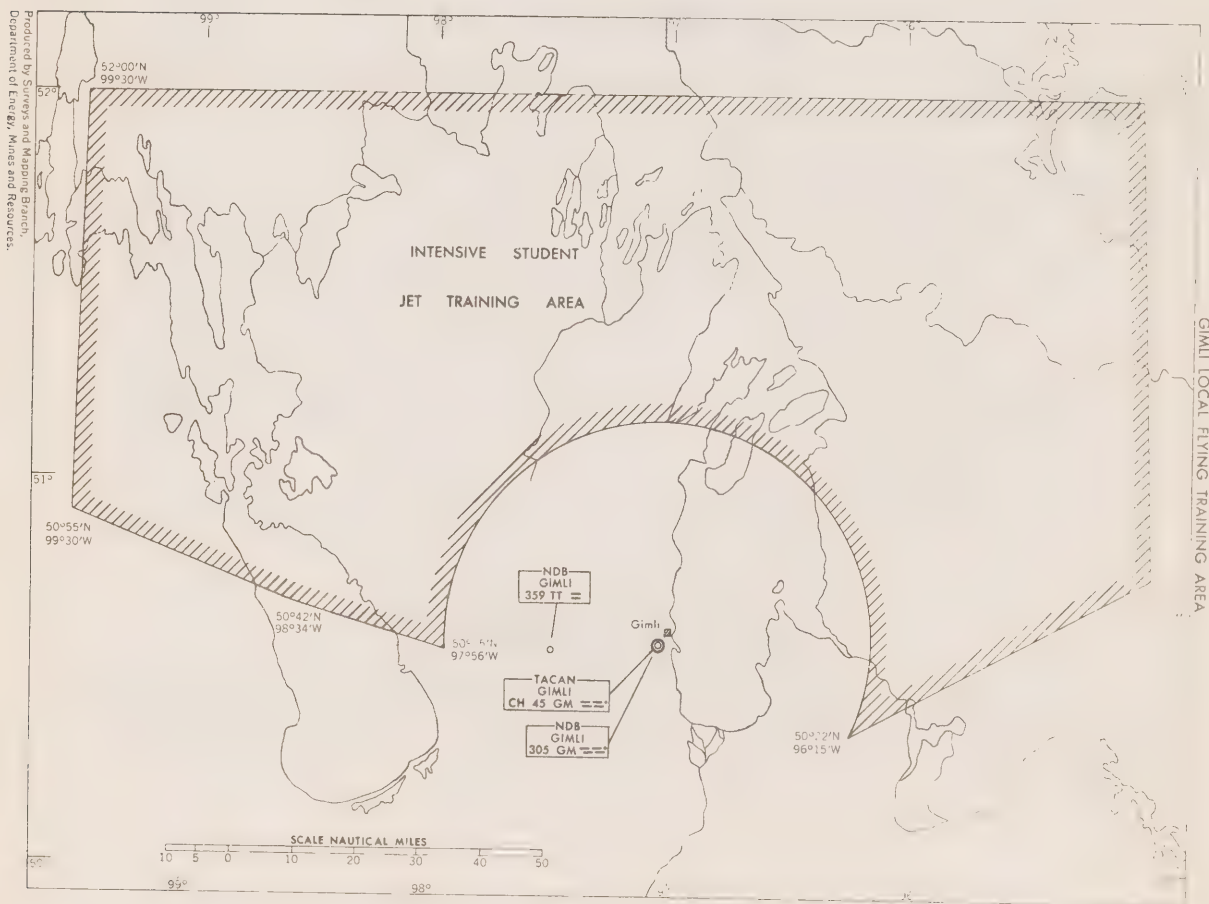
- a. Gimli Terminal Control 138.87, 228.2
- b. Gimli Tower 121.5, 126.2, 236.3, 243.0

GIMLI LOCAL FLYING AREA

Extensive flying training including aerobatics, formation flying and other manoeuvres are carried out in the Gimli Local Flying Area from ground level to FL 230, and in the MFA above FL 230 as depicted in the Designated Air Space Handbook and Enroute High Altitude charts GPH 207. The Gimli Local Flying Area is contained within the following co-ordinates and boundaries:

52°00'N	99°30'W
52°00'N	95°00'W
50°46'N	95°00'W
50°22'N	96°15'N thence the northern
boundary of Gimli Control Area to	
50°35'N	97°56'W
50°42'N	98°34'W
50°55'N	99°30'W to the point of beginning.

The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Gimli Control Tower or Terminal Control for Flight Advisory Service.



HAY RIVER. N.W.T.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runways 16 and 21.

HOPE, B.C.

GLIDER AND GYROPLANE OPERATION

Pilots operating in the vicinity of the Hope Airport (49° 22'N, 121° 29'W) should watch for gliders and gyroplanes operating in the area on week-ends and holidays up to an altitude of 12,000' ASL. These aircraft will be utilizing the area north of the runway centreline for take-offs and landings. A winch cable may also be used in this area up to 1500' ASL.

KAMLOOPS, B.C.

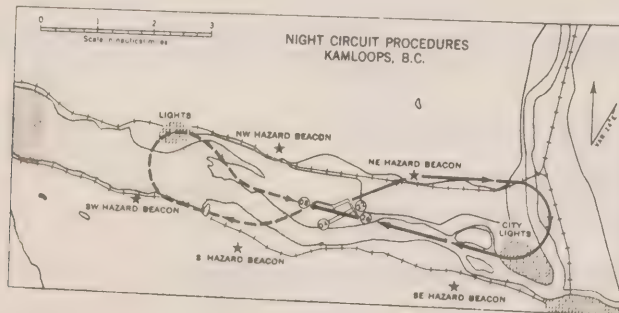
In the interest of safety, pilots using either the land or water airport at Kamloops should conform to the following circuit procedures:

(a) DAY:

1. Right hand circuits on Runways 26, 04 and 22.
2. Seaplane arrivals to conform to the land airport traffic pattern.
3. Seaplane departures not to climb or turn North until well clear of the land airport traffic pattern.

(b) NIGHT:

All aircraft to follow the procedures depicted in the following diagram:



All turns rate one within the Hazard Beacons.

Runway 08: Follow solid line then broken lines.

Runway 26: Follow broken lines then solid line.

NOTE: All turns must be completed within the perimeter of the lights at an altitude not below 2130' ASL. Night operations not authorized unless all 5 hazard beacons operating and pilots can observe all 5 beacons. Only pilots familiar with the local terrain should use this airport during the hours of darkness.

KIMBERLEY, B.C.

RIGHT HAND CIRCUITS

Execute right turn following take-off from runway 33.

MOOSE JAW, SASK.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect:

- a. During the hours of daylight: for runways 28R, 10R and 03 and
- b. During the hours of darkness: for runways 10 and 03.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with a serviceable two-way radio.

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within the Moose Jaw Control Zone and Terminal Control area.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within these areas unless:

- a. the aircraft is equipped with serviceable two-way radio;
- b. a clearance has been received from Moose Jaw Control Tower or Terminal Control Unit; and
- c. a listening watch is maintained on a frequency assigned by the Moose Jaw Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military aerodrome at Moose Jaw.

Primary communication frequencies are as follows:

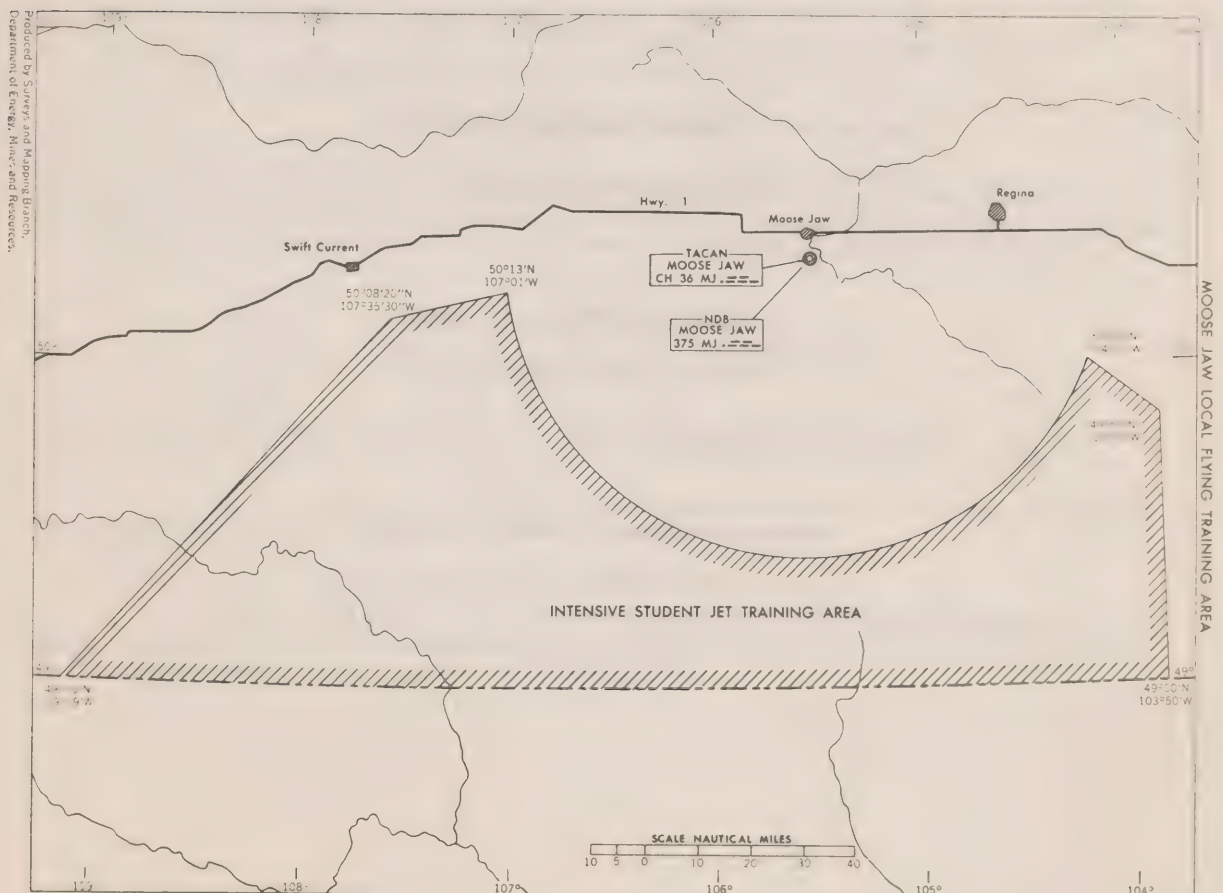
- a. Moose Jaw Terminal Control: 123.7, 227.6
- b. Moose Jaw Tower: 121.5, 126.2, 236.6, 243.0

MOOSE JAW LOCAL FLYING AREA

Extensive flying training including aerobatics, formation flying and other manoeuvres are carried out in the Moose Jaw Local Flying Area from ground level to FL 230 and in the MFA above FL 230 as depicted in the Designated Air Space Handbook and Enroute High Altitude charts GPH 207. The Moose Jaw Local Flying Area is contained within the following co-ordinates and boundaries:

50°08'20"N 107°35'30"W
50°13'N 107°01'W thence by the southern
boundary of the Moose Jaw Terminal Control Area to
50°00'N 104°11'W
49°50'N 103°50'W
49°00'N 103°50'W on the Canadian - United
States border; thence along said boundary to 109°09'W to
the point of beginning.

The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Moose Jaw Control Tower or Terminal Control for Flight Advisory Service.



NAMAO, ALTA.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 20 and 29.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NANAIMO, B.C.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 34.

PENTICTON, B.C.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 34.

PORTAGE LA PRAIRIE, MAN.

RIGHT HAND CIRCUITS

Unless otherwise authorized, right hand circuits are in effect for runways 01, 12R, 26 and 30R.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within the Portage la Prairie Control Zone and Terminal Control Area.

It is therefore, strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within these areas unless:

- a. the aircraft is equipped with serviceable two-way radio;
- b. a clearance has been received from Portage la Prairie Control Tower or Terminal Control; and
- c. a listening watch is maintained on a frequency assigned by the Portage la Prairie Control Tower or Terminal Control.

The pilot-in-command of an aircraft without a two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military Aerodrome at Portage la Prairie.

Primary communication frequencies are as follows:

- a. PORTAGE TERMINAL: 138.51, 358.4
- b. PORTAGE TOWER: 121.5, 126.2, 236.6, 243.0

PORTAGE LA PRAIRIE LOCAL FLYING AREA

Extensive flying training including aerobatics, formation flying and other manoeuvres are carried out in the Portage la Prairie Local Flying Area from ground level to FL 230 and in the MFA above FL 230 as depicted in the Designated Air Space Handbook and Enroute High Altitude charts GPH 207. The Portage la Prairie Local Flying Area is contained within the following co-ordinates and boundaries:

50°14'N	102°35'W
49°49'N	99° 57'W
49°56'N	99° 10'W thence by the southern
boundary of the Portage la Prairie Terminal Control Area to	
49°32'N	97° 38'W
49°00'N	97° 35'W
49°00'N	103°02'W to the point of beginning.

The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Portage Tower or Portage Terminal for Flight Advisory Service.

Military Jet Low Level Aerobatic Area

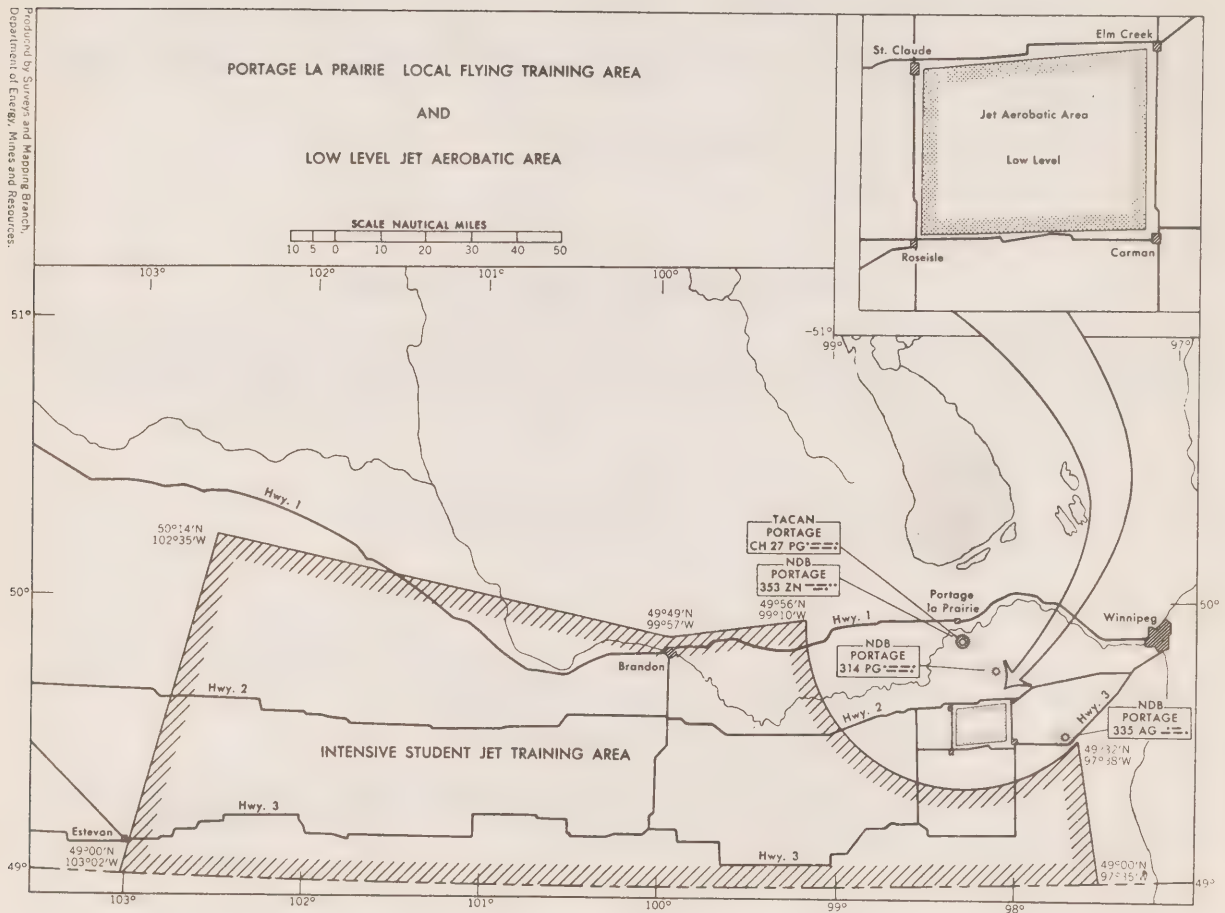
The Centennial Aerobatic Team called the "GOLDEN CENTENNAIRES" is based at Portage La Prairie, Manitoba. Intensive jet solo and formation aerobatics will be conducted from LOW LEVEL to 10,000 feet ASL within the area depicted on the following chart.

It is strongly recommended in the interests of safety, that no aircraft be operated in accordance with Visual Flight Rules in the aerobatic area because of intensive low level jet aerobatic training.

Normally, the aerobatic training will be conducted during daylight hours from Monday to Friday. Advice as to whether the area is occupied may be obtained from Portage Tower or Portage Terminal on:

121.9 126.2 137.7 396T

(see accompanying chart)



POWELL RIVER, B.C.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 09.

REGINA, SASK.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 07 and 12.

SASKATOON, SASK.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control right hand circuits are in effect for runways 14 and 26.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off **or** landing must be equipped with serviceable two-way radio.

SHEPARD, ALTA.

The former aerodrome at Shepard, Alberta (50°57'N, 113°58'W) is used for automobile racing. It is not to be used by aircraft except in an emergency and landings made will be at the risk of the aircraft operator.

SHAUNAVON, SASK.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runways 20 and 30.

VANCOUVER INTN'L AIRPORT, B.C.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 12 and 08. Right hand circuits are also used by aircraft taking off or landing in an easterly direction on the river.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

No initial flight training is permitted at Vancouver Intn'l Airport. The use of the taxiway connecting runways 11 and 20 for landings or take-offs is not permitted.

VICTORIA INTN'L AIRPORT, B.C.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 20.

VULCAN, ALTA.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 23.

WAINWRIGHT, ALTA.

RIGHT HAND CIRCUITS

Right hand circuits are in effect for runway 30.

WHITEHORSE, Y.T.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 31L and 31R.

WINNIPEG INTN'L AIRPORT, MAN.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 13, 18 and 25. Circuit height 2000' ASL.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

This NOTAM shall be applicable to all types of TURBOJET aircraft. It establishes specific minimum operating altitudes, and specific directions of flight to avoid, insofar as possible, the main residential areas surrounding the airport.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedures set forth below and illustrated on the accompanying charts should be followed unless otherwise instructed by Air Traffic Control:

Preferential Runways -

Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operation, from flight over residential areas adjacent to the airport. The Tower will assign runways in the following order of preference whenever practicable:

- (a) Take-offs: 36, 31, 25, 18, 07, 13
- (b) Landings: 18, 13, 07, 36, 25, 31
- (c) Maximum effective wind components for use in selecting the preferential runway:
 - (i) The maximum effective cross wind component for take-offs and landings should not exceed 15 knots.
 - (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
 - (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above shall only be made at the discretion of the pilot.

Departure Procedures -

- (a) (i) When weather conditions are not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways except 31, 36 and 25 until reaching at least 3000' above ground level, i.e. the climb profile for each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement. The initial power reduction should be made prior to crossing residential areas as determined either visually or by time calculation.

- (ii) Departing aircraft required to make a turn after take-off may commence such turn as soon as a safe manoeuvring speed is attained which normally will be at an altitude of not less than 600' above airport elevation.
- (b) (i) Runway 7 - Aircraft departing shall climb to 3000' ASL on runway heading or 360°M before proceeding on course.
- (ii) Runway 13 - Aircraft departing shall climb to 3000' ASL on runway heading or 180°M before proceeding on course.
- (iii) Runway 18 - Aircraft shall make a straight climb-out on runway heading to 3000' ASL before proceeding on course.
- (iv) Runway 25 - Aircraft shall turn as soon as practicable to 280°M and continue climbing to 3000' ASL before proceeding on course.

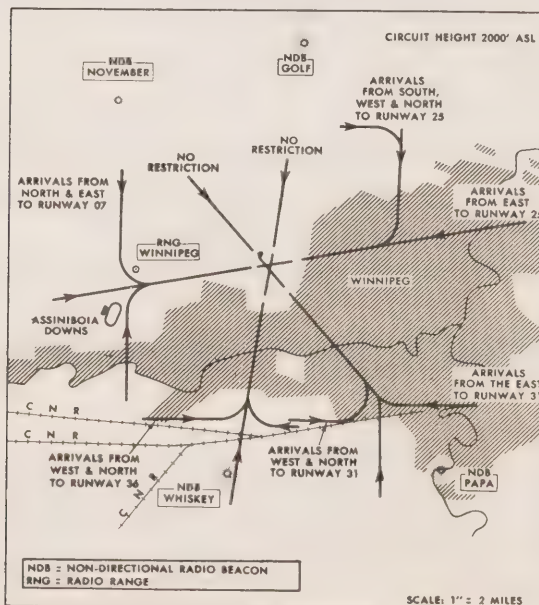
Arrival Procedures

- (a) When weather conditions permit, the minimum circuit height shall be 2000' ASL. Aircraft approaching for a landing shall maintain circuit altitude and hold this altitude as long as possible before commencing final descent to the runway. During final approach every effort should be made to remain on or slightly above the approach slope angle provided by the ILS Glide Path, VASIS or PAR.
- (b) The use of thrust and the selection of flap and gear settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement during the approach-to-land manoeuvre.

NOTWITHSTANDING THE FOREGOING PROCEDURES, OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

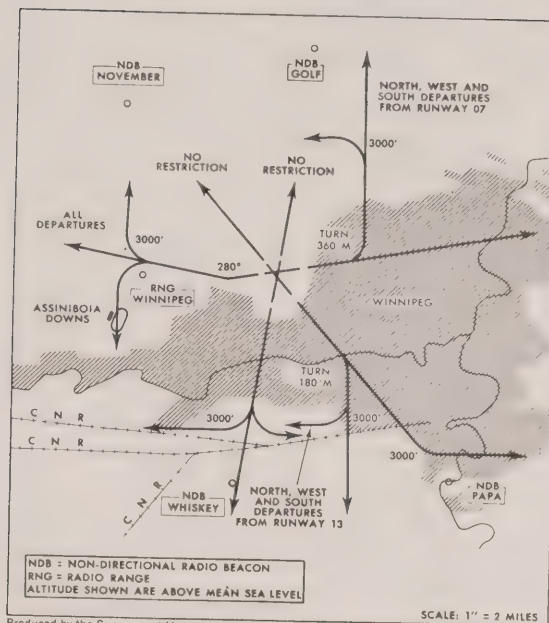
(see accompanying charts)

VFR ARRIVAL PROCEDURES WINNIPEG INTERNATIONAL AIRPORT



Produced by the Surveys and Mapping Branch,
Department of Mines and Technical Surveys, Ottawa.

VFR DEPARTURE PROCEDURES WINNIPEG INTERNATIONAL AIRPORT



Produced by the Surveys and Mapping Branch,
Department of Mines and Technical Surveys, Ottawa.

R. W. Goodwin

R. W. Goodwin,
Director, Civil Aviation.

NOTAM



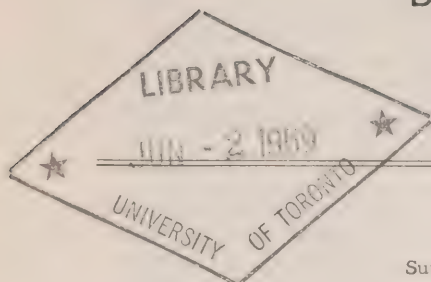
Government
Publications
Air Traffic Control

4/67
1st February

DEPARTMENT OF TRANSPORT

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AIR SERVICES
CIVIL AVIATION BRANCH



AIR TRAFFIC CONTROL PROCEDURES

Superseding NOTAMs 4/66, 11/66, 16/66, 17/66.

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TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

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AIR TRAFFIC CONTROL PROCEDURES

GENERAL

AIR TRAFFIC SERVICES

Airport Control Service: Control Towers provide this service to aircraft and vehicles on the manoeuvring area of an airport and to arriving and departing aircraft and aircraft operating in the vicinity of an airport.

Area Control Service: Area Control Centres (ACC) provide this service to IFR and Controlled VFR flights operating within controlled airspace.

Terminal Control Service: This service is provided by either an ACC or a Terminal Control Unit (TCU) to arriving and departing IFR aircraft at major airports.

Alerting Service: The service provided by ACC's and Towers to notify appropriate organizations regarding aircraft in need of Search and Rescue aid, alerting of crash equipment, ambulances, doctors and any other such safety services.

Flight Information Service: Air traffic control units provide, wherever possible, advice and useful information for the safe and efficient conduct of flights.

Airspace Reservation Service: The service provided by the Airspace Reservation Co-ordination Office (ARCO) and ACC's to provide reserved airspace for specified air operations in controlled airspace and to provide information concerning these reservations.

Customs Notification Service (ADCUS): The service provided, on request, by ATC units for advance notification to Custom Officials for trans-border flights at specified "ports of entry". Complete information is contained in the Information Circular entitled "Customs and Immigration".

TERMINOLOGY TO BE USED FOR IDENTIFYING AIR TRAFFIC CONTROL UNITS

In order to ensure uniformity in the identification of ATC units or services in air/ground communications pilots are requested to be guided by the following examples:

(a) Airport Control Services

"Ottawa Tower -"

"Ottawa Ground -"

"Ottawa Clearance Delivery -"

(b) Terminal Control Services

"Calgary Terminal -"

"Calgary Arrival -"

"Calgary Departure -"

"Montreal Precision -" (for Precision Radar Approaches)

(c) Area Control Service

"Toronto Centre -"

Since Surveillance radar, where available, is used by all controllers in the provision of control service for both the enroute and terminal area phases of flight, it is not necessary to use the word "Radar" in the identification of an ATC unit in order to obtain radar service.

USE OF GREENWICH MEAN TIME

Since accurate time is essential in the application of air traffic control procedures, it is the responsibility of the flight crew to ensure that their clocks and other time recording devices are checked as necessary to ensure that accuracy is maintained at all times.

Greenwich Mean Time (GMT) shall be used when referring to the time element in aircraft movement messages, such as flight plans, position reports and arrival reports. The twenty-four hour clock system shall be used when indicating time.

ATC CLEARANCES AND INSTRUCTIONS

Whenever an air traffic control clearance is received and accepted by the pilot, he shall comply with the clearance. If a clearance is not acceptable, the pilot should immediately inform ATC of this fact, since acknowledgement of the clearance, alone, will be taken by a controller as indicating acceptance. For example, on receiving a clearance for take-off, the pilot should acknowledge the clearance and take-off without undue delay or, if not ready to take-off at that particular time, inform ATC of his intentions in which case the clearance may be changed or cancelled.

A pilot shall comply with any air traffic control instruction which is directed to and received by him. A clearance will be identified by use of some form of the word "clear" in its content. An instruction will always be worded in such manner as to be readily identified, although the word "instruct" will seldom be included.

Remember that control is predicated on known air traffic only and, when complying with clearances or instructions, pilots are not relieved of the responsibility for practicing good airmanship.

UNITS OF SPEED AND DISTANCE

Knots and nautical miles are used in Canada for speed and distance references by ATC personnel, with some exceptions; e.g., visibility is reported in statute miles and surface wind speed in miles per hour.

REPORTING MALFUNCTIONS OF NAVIGATION AND COMMUNICATIONS EQUIPMENT

The pilot-in-command of an aircraft in IFR flight within controlled airspace shall report immediately to the appropriate air traffic control unit any malfunction of navigation or air/ground communications equipment.

Examples:

- (a) loss of VOR, ADF or low frequency navigation capability, or
- (b) complete or partial loss of ILS capability, or
- (c) impairment of air/ground communications capability, or
- (d) impairment of transponder serviceability.

Having received this information, Air Traffic Control will take into account any limitations in navigation or air/ground communications equipment and control the aircraft accordingly.

RADAR

All area control centres and terminal control units are equipped with primary surveillance radar. Secondary Surveillance Radar (SSR) will be installed at all air traffic control radar equipped units by mid-1967. The date of commissioning of each SSR installation will be announced by a Class One NOTAM. Precision Approach Radar is located at Gander, Halifax, Montreal, Toronto, Winnipeg, Vancouver and Torbay.

The use of radar increases airspace utilization by allowing ATC to provide flights with greatly reduced separation standards. Under radar control, as an aircraft progresses along its route, control of the aircraft is transferred from one control unit to the next with every precaution being taken to ensure that positive identification is maintained. However, under certain circumstances, this is not always possible, in which case it is necessary either to re-identify the aircraft or revert to non-radar separation standards.

Before providing radar control service, ATC will establish identification of the aircraft concerned. Pilots will be notified whenever radar identification is either established or lost.

Examples:

RADAR IDENTIFIED, or
RADAR IDENTIFICATION LOST.

Radar vectoring is used when necessary for separation purposes, when required by noise abatement procedures, when requested by the pilot, or whenever vectoring will offer operational advantages to the pilot or the controller. When vectoring is initiated, the pilot will be informed of the location to which the aircraft is being vectored.

Examples:

TURN LEFT HEADING 050 FOR VECTORS TO VICTOR 300.
MAINTAIN HEADING 020 FOR VECTORS TO THE VANCOUVER VOR 054 RADIAL.
DEPART KLEINBURG BEACON ON HEADING 240 FOR VECTORS TO FINAL APPROACH COURSE.

Pilots will be informed when radar vectoring is terminated, except when an arriving aircraft is vectored to the final approach course or vectored to the traffic circuit for a visual approach.

Example:

RESUME NORMAL NAVIGATION.

When an aircraft is vectored to final approach or to the traffic circuit, the issuance of approach clearance indicates that normal navigation should be resumed.

Secondary Surveillance Radar (SSR)

Regulations concerning transponders are contained in the "Secondary Surveillance Radar Transponder Order (ANO Series II, No. 10)". When instructions concerning transponder operation are received from ATC, the transponder shall be operated as directed until further instructions are received or until the aircraft has landed, except in the case of an emergency or communication failure.

Air traffic controllers will use the following phraseology when referring to the operation of transponder equipment:

NOTE: Mode A is known to military pilots as "mode three", therefore ATC refers to this mode as "alpha three".

SQUAWK ALPHA THREE CODE (number) - Operate transponder on specified mode and code. (Transponder has not been operating on Mode A/3).

SQUAWK CODE (number) - Operate transponder on a specified code. (Transponder is already operating on Mode A/3).

SQUAWK IDENT - Engage the identification ("IDENT") feature of the transponder.

SQUAWK CODE (number) AND IDENT - Operate transponder on a different code and engage the "IDENT" feature. (Transponder is already operating on Mode A/3).

SQUAWK ALPHA THREE CODE (number) AND IDENT - Operate transponder on specified mode and code and engage the "IDENT" feature. (Transponder has not been operating on Mode A/3).

SQUAWK STANDBY - Switch transponder to "standby" position, retaining present mode and code.

SQUAWK LOW/NORMAL - Operate transponder on low or normal sensitivity, as specified. (Transponder is operated on normal sensitivity unless ATC specifies "low". "ON" is used instead of "NORMAL" as a label on some transponder control panels).

SQUAWK MAYDAY - Operate transponder on Mode A/3, Code 77.

STOP SQUAWK - Switch off transponder.

Initially, ATC will make use of only the basic 64 codes in Mode A/3. In the assignment of codes, a two-digit code designation will be used; e.g., Code 21 will be stated as CODE TWO ONE. Pilots using transponders with 4096 code capability shall select the designated digits, followed by two zeros; e.g., when assigned Code 21, select 2100.

FLIGHT PLANNING

FLIGHT PLANS AND FLIGHT NOTIFICATIONS

Air Navigation Order, Series V, No. 4 lists the requirements respecting flight plans and flight notifications. Briefly, these requirements are:

VFR Flights Not Within A Sparsely Settled Area

The pilot-in-command of an aircraft on a VFR flight AT NIGHT or on a VFR flight TO OR FROM ANY MILITARY AERODROME, but NOT within a sparsely settled area, shall:

- (a) file a VFR flight plan with an appropriate air traffic control unit, or
- (b) file a flight notification with an appropriate air traffic control unit if communication facilities are inadequate to permit the filing of an arrival report with an appropriate air traffic control unit within thirty minutes after landing, or
- (c) file a flight notification with any responsible person, if communication facilities are inadequate to permit filing a VFR flight plan or a flight notification with an appropriate air traffic control unit, except that in the case of a VFR flight to a military aerodrome the flight notification must be filed with an air traffic control unit.

VFR and IFR Flights Conducted Wholly Or Partly Within A Sparsely Settled Area

The pilot-in-command of an aircraft on a VFR flight, or on an IFR flight outside controlled airspace, to be conducted wholly or partly within a sparsely settled area shall:

- (a) file a flight notification with an appropriate air traffic control unit, or
- (b) file a flight notification with any responsible person, if communication facilities are inadequate to permit filing with an appropriate air traffic control unit except that in the case of a flight to a military aerodrome the flight notification must be filed with an air traffic control unit.

Note: If the flight to be conducted wholly or partly within a sparsely settled area is a non-stop flight commencing and terminating at a base where facilities are adequate to permit communication with an appropriate air traffic control unit, a VFR or IFR flight plan may be filed in lieu of a flight notification.

The "sparsely settled areas" referred to in this NOTAM are those described in the "Flight Precautions Sparsely Settled Areas Order" (Air Navigation Order, Series V, No. 12).

It is mandatory to file a VFR flight plan or flight notification for flights at night or to or from a military aerodrome. However, pilots are urged to file a flight plan or flight notification for all VFR flights made outside the sparsely settled areas.

All VFR flight plans must be closed with an appropriate air traffic control unit within thirty minutes after landing. All flight notifications filed with an air traffic control unit must be closed with an appropriate air traffic control unit within twenty-four hours of the time indicated on the flight notification.

Pilots who choose to file flight plans, rather than flight notifications, to remote locations such as a farm, ranch, lake, resort, etc., which are outside of designated sparsely settled areas, are cautioned to first make sure that adequate communications are available at the point of destination to permit the filing of an arrival report with ATC within one half hour after arrival. It is important when filing a flight plan for this type of flight that the pilot insert, in the "Other Information" box on the flight plan form, specific information indicating how and from what place his arrival will be reported to ATC.

Example:

"Arrival report - telephone from Jones' farm two miles SE Kerrobert to Saskatoon Tower".

Compliance with this procedure will provide ATC with information which would be particularly significant if an aircraft failed to arrive at destination. Special flight planning procedures for the Oceanic and Goose UIR areas are contained in the "Special Procedures" section of this Notam.

Timely Filing of IFR Flight Plans

The timely filing of IFR flight plans with Air Traffic Control is essential to allow control personnel time to extract and record the relevant content, correlate this new data with available information on other traffic under control, coordinate as necessary and determine how the flight may best be integrated with the other traffic.

Accordingly, in order to assist ATC in improving the service provided and to allow for sufficient time for input into the ATC Data Processing system, pilots are urged to file IFR flight plans as early as practicable, preferably 30 minutes prior to their proposed departure time, and to be prepared to depart as closely as possible to the proposed departure time specified in the flight plan. Compliance with this procedure will minimize departure delays.

Transponder/DME - Equipped Aircraft

When filing a flight plan for IFR or controlled VFR flight, the pilot of an aircraft equipped with a transponder, DME equipment, or both, shall indicate equipment capability by adding a suffix to the aircraft type, as follows:

- /X - Transponder with no code capability.
- /T - Transponder with 64 code capability.
- /U - Transponder with 4096 code capability.
- /D - DME
- /L - DME and transponder with no code capability.
- /B - DME and transponder with 64 code capability.
- /A - DME and transponder with 4096 code capability.

Examples: Written - F27/T, DC6B/B, DC8/A.
 Spoken - F TWENTY-SEVEN SLANT TANGO
 - DC SIX B SLANT BRAVO
 - DC EIGHT SLANT ALPHA

Cancellation of IFR Flight Plans

Pilots may cancel IFR flight plans or change to VFR flight plans provided they are operating in VFR weather conditions, and are outside the Block Airspace and the controlled airspace between FL 230 and FL 450.

Where conditions indicate that the remainder of a flight can be conducted in accordance with VFR, the pilot will notify ATC by transmitting one of the following messages:

- (a) to cancel an IFR flight plan:
"CANCEL IFR FLIGHT PLAN", or
- (b) to revise an IFR flight plan to a VFR flight plan:
"CHANGE FLIGHT PLAN TO VFR".

Only an acknowledgement should be expected when either of the above messages is transmitted. These procedures should not be used when IFR conditions are expected in a subsequent portion of a flight. If, however, following the use of either of these procedures, subsequent IFR operation becomes necessary, a new IFR flight plan must be filed and an ATC clearance received before encountering IFR conditions.

It is drawn to the attention of pilots that under conditions requiring the filing of a flight plan for VFR flight, the phraseology in (b) must be used as that in (a) cancels the existing flight plan and the flight will continue operation with no flight plan.

AVOIDANCE OF AIRSPACE RESERVATIONS/MILITARY ACTIVITY AREAS

Pilots are requested to plan their flights so as to avoid airspace reservations and military activity areas by at least:

A. Horizontally:

- (1) Domestic FIRs (excluding controlled airspace) - 60 nautical miles
- (2) Gander Oceanic Control Area - 120 nautical miles

B. Vertically:

- (1) Domestic FIRs
 - (a) At or below Flight Level 230 1000 feet
 - (b) Above Flight Level 230 2000 feet
- (2) Gander Oceanic FIR
 - (a) At or below Flight Level 290 1000 feet
 - (b) Above Flight Level 290 2000 feet

Information concerning Airspace Reservations in controlled airspace and Military Activity Areas in uncontrolled airspace will be promulgated in the form of a Class 1 Notam at least 24 hours in advance of the planned activity. The information will include a description of the airspace involved and the period of occupancy in each case.

DEPARTURE PROCEDURES

GENERAL

Pilots shall maintain a listening watch on the appropriate tower frequency while under control of the tower. Whenever possible, requests for radio checks and taxi instructions should be made on the appropriate ground control frequency. After establishing initial contact with the control tower, the pilot will be advised of any frequency changes required.

After communication has been established with the tower, the terms "THIS IS", "OVER", and other similar terms may be omitted, provided such omission does not lead to misunderstanding.

All clearances and instructions issued to a pilot must be acknowledged by the pilot.

Radio Checks

Radio checks should be requested on the ground control frequency. An indication of readability will be given using the following scale except that for pre-flight radio checks the phrase "RADIO CHECKS" may be used to indicate a readability of 4 or 5.

1. Bad
2. Poor
3. Fair
4. Good
5. Excellent

Example:

Pilot: WINNIPEG GROUND, THIS IS JULIETT VICTOR HOTEL, RADIO CHECK, ONE TWO ONE DECIMAL NINE.

Ground Control: JVH THIS IS WINNIPEG GROUND, RADIO CHECKS or READ YOU 4.

Taxi Clearance

Taxi clearance should be requested on the ground control frequency. If no flight plan has been filed, the pilot should advise the tower as to the nature of the flight, such as "local VFR" or "proceeding VFR to (destination)".

Pilots of aircraft equipped with two-way radio are reminded that if cleared to taxi without restriction to the runway in use, no further clearance is required to cross any runway enroute.

Upon receipt of a normal taxi clearance, a pilot is expected to proceed to, but not onto, the runway he is to use for take-off. If, for any reason, the ground or airport controller requires that a pilot request a further clearance before crossing or entering any of the runways enroute to this taxi clearance limit, this requirement will be reflected in the taxi clearance.

Example:

Pilot: WINNIPEG GROUND, JVH AT HANGER NO. 3, REQUEST TAXI CLEARANCE, OVER.

Ground Control: JVH WINNIPEG GROUND, CLEARED TO (runway or some specific point) (any special instructions such as routing, traffic, cautionary or warning regarding construction or repair on the manoeuvring area) WIND (direction in degrees magnetic and speed in miles per hour) TIME (in Greenwich Mean Time - using a four figure group) ALTIMETER (four figure group giving the altimeter setting in inches).

Common ATC Phraseologies:

ADVISE WHEN READY

CONTINUE or CONTINUE TAXIING

HOLD or HOLD ON (runway number, taxi-way) or HOLD (direction) OF (runway number, taxi-way) or

HOLD SHORT OF (runway number, taxi-way) or TAXI ON (runway number, taxi-way).

TAXI TO POSITION AND HOLD.

TURN NOW or TURN LEFT or TURN RIGHT.

In order to ensure that no hazard will be created, all flights shall hold at least 100 feet from the edge of the runway in use, unless otherwise authorized by the Tower. A specific clearance is required to proceed onto the active runway.

Transponders in close proximity to the radar site are likely to reply to "sidelobes" from the interrogator antenna, causing "clutter" on controller's radar displays. Therefore, transponders should be adjusted to "stand-by" while taxiing, and not be switched to "on" (or "normal") until immediately before take-off. If a transponder reply is required by ATC immediately after take-off, the appropriate instructions will be included in the IFR clearance.

Example: SQUAWK ALPHA THREE, CODE TWO ZERO, JUST BEFORE TAKE-OFF.

IFR Clearance

An IFR clearance will normally be given after a flight has received taxi clearance. However, due to high fuel consumption during ground running time, some jet pilots may wish to obtain their IFR and taxi clearance prior to starting engines. Pilots using this procedure shall call the tower using a phrase such as "READY TO START NOW" or "READY TO START AT (time)". If a delay is anticipated, the pilot will be advised to contact "clearance delivery" on a specific frequency for his IFR clearance.

Example:

Tower: JVH WINNIPEG GROUND/CLEARANCE DELIVERY
IFR CLEARANCE (controller will wait for the pilot to indicate that he is
ready to copy) ATC CLEARS, +-----.

At certain airports an IFR departure clearance may include a coded departure routing known as a STANDARD INSTRUMENT DEPARTURE (SID). SIDs have been established at Montreal, Toronto, Ottawa and Vancouver International Airports and are published as a supplement to the Radio Navigation Charts. It is expected that SIDs will be instituted at other high density airports in the future.

Pilots of air carrier or military aircraft operating at airports for which SIDs have been published will be issued SID clearances by ATC whenever considered appropriate. Pilots of other aircraft will not be issued SID clearances unless requested by the pilot. No pilot is required to accept an abbreviated SID clearance. If any doubt exists as to the meaning of such clearance, the pilot should request a detailed clearance.

The clearance received by a pilot must be "read-back" to the controller except that the traffic information inserted at the end of the clearance may be acknowledged by the phrase "TRAFFIC RECEIVED". Read-back of the SID portion of a clearance should consist of repeating the name of the SID received, rather than repeating the detailed SID route as published. If the clearance "read-back" is incorrect, the pilot will be so advised and the correct data retransmitted to the pilot. These corrections must also be repeated by the pilot to ensure that they have been correctly received.

Take-off Clearance

When ready for take-off the pilot shall request take-off clearance. Upon receipt of take-off clearance, the pilot shall take-off without delay, or inform ATC if unable.

Example:

Pilot: WINNIPEG TOWER JVH READY FOR TAKE-OFF.
Tower: JVH WINNIPEG TOWER (any special information - hazards, obstructions, etc.) CLEARED FOR TAKE-OFF (control instructions - turn after take-off, wind information if required, etc.).

Common ATC Phraseologies:

BARRIER INDICATES UP/DOWN (for use at locations where arrester gear is installed).
CAUTION - POSSIBLE TURBULENCE FROM DEPARTING (type of aircraft).
WAIT, AIRCRAFT ON FINAL.
CLEARED FOR TAKE-OFF, LEFT/RIGHT TURN APPROVED.
CONTACT DEPARTURE CONTROL (frequency) NOW or AT (time) or OVER (location).

When an aircraft is cleared for take-off on a runway at any controlled airport, the clearance is based on the premise that the full length of the runway will be available for this purpose. Controllers are not permitted to initiate a clearance for a pilot to commence take-off from a point other than that from which the take-off run normally begins. However, a pilot may request and receive clearance for take-off using only a part of the runway. Provided traffic, noise abatement procedures and other conditions permit, the request will be approved but pilots are reminded that they, and not the controller-on-duty, are responsible for ensuring that that portion of the runway they elect to use for this purpose will be adequate for the take-off run. Pilots are cautioned that light aircraft taking off from runway intersections behind heavier aircraft which are utilizing the full runway length are apt to encounter, particularly during calm or light wind conditions, severe turbulence in the wake of departing or arriving aircraft and spreading from its take-off or flight path.

Release from Tower Frequency

IFR Flights - Control Zones Within Terminal Control Areas:

After take-off and when clear of conflicting airport traffic, an IFR flight will be cleared by the airport controller to contact a specific control unit on a specified frequency at a specified time or location. At certain locations flights will be advised to change to a specific departure frequency prior to take-off.

IFR Flights - Control Zones Outside Terminal Control Areas:

When requesting release from tower frequency, the pilot shall advise the tower of the agency or the frequency to which he will change if such information has not been specified in the ATC clearance prior to departure.

VFR Flights -

VFR flights will not be released from tower frequency while operating within the control zone.

Example:

Pilot: WINNIPEG TOWER, JVH REQUEST CLEARANCE (from tower frequency, to company, to a specific frequency).
Tower: JVH, WINNIPEG TOWER, CLEARED (from tower frequency, to company, to a specific frequency) NOW or AT (time) or OVER (location).

A departing IFR aircraft, at radar equipped locations, is radar identified as soon as practicable and vectored so as to avoid conflicting traffic to allow climb to cruising altitude with the least possible delay.

A controller may not issue a clearance or approve a request for take-off from a pilot which would result in a deviation from established noise abatement procedures.

NOTE: Refer to Notam "Special Procedures and Facilities Land Aerodromes" for detailed information.

At the pilots request, ATC may issue a clearance to a departing IFR flight authorizing a portion of the flight to be made in accordance with VFR. The clearance will specify a time, altitude or location to which VFR must be maintained, and will include alternate instructions in the event VFR flight becomes impracticable.

PROCEDURES FOR AIRCRAFT WITHOUT RADIO

At all times, the pilot should be alert for visual signals which may be given by the tower.

Pilots are required to obtain clearance either by prearrangement or by visual signals before crossing or entering runways, taxiways or any other portion of the airport used for landings and take-offs.

Clearances must be obtained before proceeding any closer than 100 feet from the edge of the runway in use.

A pilot must obtain clearance to taxi back along the runway in use after landing. When an aircraft has been stopped by a red light a further clearance must be received before proceeding.

Take-Off Clearance

By Day: When ready for take-off, the aircraft should be taxied to a position at least 100 feet from the edge of the runway in use and positioned so as to permit the pilot to observe a visual signal from the tower. When an area other than a runway is being used for take-off, the pilot may attract the attention of the controller by turning the aircraft toward the tower.

By Night: During the hours of darkness, a pilot wishing to attract the attention of the airport controller, should turn on a landing light with the aircraft positioned so that appropriate signals may be received from the tower.

Acknowledgement of Visual Signals

A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals as follows:

- (a) On the airport; full movement of rudder or ailerons, whichever can be most readily seen from the tower, (such movement should be repeated at least 3 times in succession) or taxiing the aircraft in the authorized direction.
- (b) At night; by a single flash of a landing light.

PROCEDURES FOR AIRCRAFT EQUIPPED WITH RECEIVER ONLY

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only except that an airport controller may request the pilot to acknowledge a transmission in a specific manner. After the initial acknowledgement no further acknowledgement, other than compliance with clearances and instructions, is necessary, unless otherwise requested by the controller.

VISUAL SIGNALS

Authorized visual signals used by the tower and their meaning are as follows:

To aircraft on the ground:

1. A SERIES OF GREEN FLASHES - Cleared to taxi.
2. STEADY GREEN LIGHT - Cleared for take-off.
3. SERIES OF RED FLASHES - Taxi clear of landing area in use.
4. STEADY RED LIGHT - Stop.
5. FLASHING WHITE LIGHT - Return to starting point on the airport.

To all aircraft:

When the rotating beacon is lighted by day, this shall indicate that the weather within the control zone is below VFR limits.

ENROUTE PROCEDURES

IFR POSITION REPORTS

Pilots of IFR and controlled VFR flights are required to make position reports over compulsory reporting points listed in the "Designated Airspace Handbook" and in addition, over reporting points specified by an ATC unit.

Enroute IFR and controlled VFR flights should establish direct controller-pilot communications (DCPC) wherever possible. Peripheral (PAL) transmitter-receiver sites have been established at a number of locations to extend the communication coverage. Whenever DCPC communication cannot be established, pilots should make position reports to ATC through the nearest communications agency along the route of flight.

IFR flights being provided with radar service may be authorized by ATC to discontinue position reports over compulsory reporting points, while in an area of radar coverage. Pilots will be informed when to resume normal position reporting.

In order that flight information and alerting service may be provided to all IFR flights outside controlled airspace, pilots should make position reports over all navigational aids along the route of flight to the nearest station having air/ground communications capability.

VFR POSITION REPORTS

VFR flights are not required to file position reports; however, they should file these reports whenever possible for their own protection. In order to minimize frequency congestion on DCPC frequencies, pilots of VFR aircraft are urged to make routine position reports to the nearest DOT aeradio station. Such reports are recorded by the radio operator and, although not normally forwarded to ATC are immediately available in the event of search and rescue action. VFR position reports should be given in the following general format:

"OTTAWA RADIO, THIS IS INDIA GOLF BRAVO, VFR FLIGHT PLAN, OVER OTTAWA AT ONE ONE FIVE EIGHT, ESTIMATING KILLALOE ONE TWO THREE FOUR, OVER".

VFR CLIMB AND DESCENT - IFR FLIGHTS

Air traffic control will not clear aircraft in IFR flight to climb or descend in accordance with the visual flight rules unless the pilot makes a specific request to be permitted to do so. VFR climb or descent will not be authorized for flights with the Block Airspace or within controlled airspace between FL 230 and FL 450.

Pilots are reminded however, that in making such requests they are accepting responsibility for ensuring that adequate separation between their own and all other aircraft will be maintained during the climb or descent since Air Traffic Control cannot guarantee separation under these circumstances.

CONTROLLED VFR FLIGHTS

Regulations governing flights within the Block Airspace are contained in Air Navigation Order, Series V, No. 15 entitled the "Block Airspace Order".

These regulations, developed in the interest of increased air safety, allow VFR pilots with special qualifications to be provided with IFR separation by Air Traffic Control. Controlled VFR flights must be conducted in accordance with procedures designed for use by IFR flights, except that when IFR weather conditions are encountered the pilot of a Controlled VFR flight must avoid such weather conditions.

It may not be possible for Air Traffic Control to issue a clearance for a controlled VFR flight to operate at the requested altitude at the time a pilot desires it. This may be due to the density of air traffic within the control area at the time which prevents the acceptance of any additional aircraft in the Block Airspace. In such cases, a later request, or a request for a different altitude, may be approved.

Pilots planning Controlled VFR flight within the Block Airspace are warned not to expect the provision of this service on those airways which are controlled by U.S. ARTC Centres.

The Block Airspace consists of that airspace on airways extending from 9,500 ASL east of 114°W and 12,500 ASL west of 114°W to Flight Level 230. Since the 114th west meridian divides Blue Airway No. 14 and portions of Amber Airway No. 2, the Block Airspace on all of Blue 14 and that portion of Amber 2 between Third Lake Intersection and fifteen miles northwest of Edmonton has a base of 9,500 ASL. In order that the characteristics of the controlled airspace associated with the Victor Airway 301 section between Calgary and Edmonton and the alternate Victor 301 West may be compatible, the lower limit of the "Block Airspace" on Victor 301 West has been designated as 9,500 ASL.

ATC clearances for Controlled VFR flight will not normally be issued prior to take-off, but rather upon receipt of a position report filed by the pilot upon reaching the last 1,000 foot altitude below the base of the Block Airspace (8,500 or 11,500) with a request for a clearance. The clearance shall be read back by the pilot to ensure accuracy. This procedure is intended to ensure that the radio equipment is operating and to remind pilots that during climb to the Block Airspace, ATC separation is not being provided, and they must maintain a vigilant watch for other traffic. The ATC clearance will contain the phrase:

MAINTAIN (Altitude) VFR.

AREA CONTROL ABOVE FL 230

Canadian controlled airspace above flight level 230 is divided into two areas known as the "Northern Control Area" and the "Southern Control Area". These areas are defined in the Designated Airspace Handbook and described in the NOTAMs entitled "Canadian Airspace Characteristics" and "Area Control Above FL 230."

Within these areas lateral separation is provided by ATC in the form of "airspace to be protected" with relation to an approved track. Therefore, it is the pilot's responsibility to remain on the approved track in order to be assured of adequate lateral separation from other air traffic. Normally, the airspace to be protected is predicated on the premise that change-over from one navigation reference to another will take place approximately midway between facilities.

Clearances to turbo-jet aircraft equipped with a Mach meter system may include an appropriate Mach number. The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero decimal zero one (0.01) and ATC approval obtained by the pilot before making any change. If an immediate temporary change in Mach number is necessary (e.g. due to turbulence), ATC must be notified as soon as possible of such change. When a Mach number has been included in a clearance, the flight concerned should transmit its current Mach number with each position report.

Pilots are reminded of the following rules which apply in the Northern and Southern Control Areas:

- (a) All flights operating at and below FL 450 must be conducted in accordance with the Instrument Flight Rules and, therefore, require an ATC clearance.
- (b) "1000-on-top" flight is not permitted at or below FL 450.
- (c) Altimeters must be set to Standard Pressure (29.92 inches of mercury of 1013.2 mbs.).

Northern Control Area

Unless otherwise authorized by ATC all aircraft operating within the Northern Control Area are to maintain the correct altitude for direction of flight in accordance with the following table:

<u>TRUE TRACK</u>	<u>FLIGHT LEVELS</u>
Between 000° and 179° inclusive	250, 290, 330, 370, 410, 450, etc.
Between 180° and 359° inclusive	270, 310, 350, 390, 430, 470, etc.

Flights operating on approved tracks formed by navigation aids which are more than 500 nautical miles apart should make position reports at fixed lines in accordance with the following:

- (a) Flights whose track is predominantly North or South, (315° true clockwise through 045° true or the reciprocals) shall report over fixed reporting lines coincident with each 5° or latitude north or south of and including 60° North latitude;
- (b) Flights whose true track is predominantly East or West, (046° true through 134° true or the reciprocals) shall report over fixed reporting lines coincident with each 10 degree meridian east and west of and including 100° west longitude, except that where 20 degrees of longitude will be traversed in less than 60 minutes the flight may report over such reporting lines spaced at 20 degree intervals.
- (c) In forwarding a position report the "position" will be expressed by the latitude and longitude at which the reporting line is crossed. For North or Southbound flights, the latitude should be expressed in degrees only, and longitude in degrees and minutes. For East or Westbound flights, the longitude should be expressed in degrees only and the latitude in degrees and minutes. These reports should be made direct to ATC units using peripheral communications where available. If not possible, such reports will be made to Goose Bay, Churchill, Winnipeg, or Edmonton Aeradio Stations as appropriate, using the published frequencies. If radio contact cannot be established or maintained with any of the above-mentioned stations, position reports will be made to the nearest military unit, or to the nearest DOT Aeradio Station, on the appropriate HF or VHF frequency.

CRUISING ALTITUDES

Use of Flight Level 180

Flight Level 180 may be used only when assigned by ATC.

Since less than 1000 feet vertical separation may exist between an aircraft flying at 17,000 feet ASL on an altimeter setting and an aircraft flying at flight level 180 or higher, when the altimeter setting is below 29.92 inches, the lowest usable flight level will be assigned or approved in accordance with the following table.

<u>Altimeter Setting</u>	<u>Lowest Usable Flight Level</u>
29.92 or higher	180
29.91 to 28.92	190
28.91 to 27.92	200
27.91 or lower	210

However, flight level 180 may be assigned when the altimeter setting is below 29.92 but not below 28.92, provided that when vertical separation is being provided between the aircraft at flight level 180 and an aircraft operating on an altimeter setting, the latter aircraft shall not be assigned, or given approval to operate at, an altitude above 16,000 ASL.

"1000 Feet on Top" Flight

At the request of a pilot, at least "1000 feet on top" flights may be authorized by ATC. The altitude being maintained must be appropriate for the direction of flight and must be at least one thousand feet above all cloud, haze, smoke or other formations. ATC may not authorize such flights in the Block Airspace or the controlled airspace between FL 230 and FL 450. It is the pilot's responsibility to maintain adequate separation between his own and all other aircraft.

Altitude Information on Initial Contact

Pilots are requested to state their altitude upon initial contact on any ATC frequency.

CLEARANCE LIMIT

The clearance limit as specified in an ATC clearance is the point to which an aircraft is cleared. Further clearance is delivered to a flight prior to arrival at the clearance limit, however occasions may arise when this may not be possible. In the event further clearance is not received the pilot is expected to hold at the clearance limit, maintaining the last assigned altitude, and to request further clearance. He is not to proceed beyond this clearance limit, as the altitude maintained may be occupied beyond this point. For example, if a flight approaches from the East, the holding pattern will be on the east side of the clearance limit.

NOTE: Procedures covering communications failure are contained in ANO Series V, No. 5.

RACE TRACK HOLDING PROCEDURE

The race track holding procedure described in terms of still air conditions, requires execution of the following manoeuvre, adjusting times to retain the pattern taking existing winds into account:

- (a) After arriving over the holding point, fly so as to align the aircraft on the specified inbound track;
- (b) Execute a 180° rate one turn so as to fly outbound on a track parallel to the specified inbound track;
- (c) Continue outbound for a period of either one or two minutes as specified;
- (d) Execute a 180° rate one turn so as to realign the aircraft on a specified inbound track.

NOTE: In the case of a jet aircraft a rate half turn or a turn not in excess of 30° of bank will be used.

All turns required in connection with joining or maintaining the holding procedure shall be executed on the same side of the specified inbound track as the outbound leg.

When flying a holding procedure and instructions are received specifying the time of departure from the holding point, the pilot should adjust his pattern within the limits of the established holding procedure in order to leave the holding point at the exact time specified.

Except when left hand turns are specified on charts or by Air Traffic Control, turns shall be to the right.

ARRIVAL PROCEDURES

INITIAL CONTACT

VFR: Prior to entering a control zone, the pilot shall select the appropriate tower frequency and call the tower, giving his identification, position (distance in miles and direction from the airport or by reference to a geographical fix), and request landing instructions.

IFR: Pilots shall establish communication with the control tower as follows:

- (i) if in direct communication with an area control centre or a terminal control unit, the pilot will be advised by the IFR controller when he is to contact the tower, or
- (ii) if the conditions in (i) above are not applicable, pilots shall establish communication with the tower when approximately 25 miles from the airport and shall remain on tower frequency.

INITIAL CLEARANCE

On initial contact with the tower, the airport controller will advise the pilot regarding the runway to use, wind direction and speed, altimeter setting and any other pertinent information. The airport controller will clear the flight to the traffic circuit; however, under certain weather and/or traffic conditions, the flight may be cleared to a specific location, directly to base leg, or for a straight-in approach.

Example:

Pilot: VICTORIA TOWER THIS IS ROMEO MIKE GOLF, OVER.

NOTE: Pilots are requested to use the phonetic alphabet for aircraft identification on initial contact.

Tower: RMG, THIS IS VICTORIA TOWER, OVER.

Pilot: VICTORIA TOWER RMG, OVER ACTIVE PASS, REQUEST LANDING INSTRUCTIONS.

Tower: RMG, VICTORIA TOWER,
RUNWAY (number) WIND (direction in degrees magnetic in miles per hour) ALTIMETER (four-figure group in inches) CLEARED TO (circuit, straight-in approach, left base, right base or a specific point) (any obstruction, traffic or other pertinent information) OVER.

Common ATC Phraseologies:

CLEARED TO THE CIRCUIT.

CLEARED RIGHT-HAND APPROACH RUNWAY (number).

CLEARED STRAIGHT-IN APPROACH.

APPROACH CLEARANCE

Unless cleared for a straight-in approach, the pilot should request further clearance upon reaching his initial clearance limit. A clearance to the circuit indicates that the pilot should join the Traffic Circuit on the downwind leg. Pilots of NORDO and RONLY aircraft should join the circuit on the upwind leg.

Example:

Pilot: VICTORIA TOWER RMG DOWNWIND, REQUEST FURTHER CLEARANCE.

Tower: RMG (any approach instructions including position, type and colour, if significant, of aircraft to follow, if not number one on approach).

Common ATC Phraseologies:

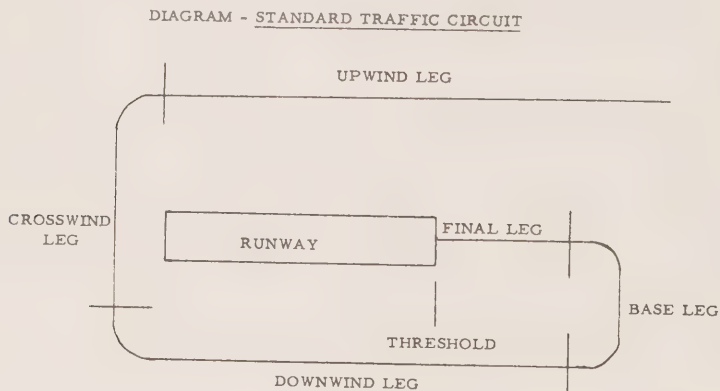
FOLLOW (aircraft type) NOW ON BASE LEG.

EXTEND DOWNWIND.

WIDEN APPROACH.

TRAFFIC CIRCUIT

The pilot of an aircraft approaching an airport shall make a left-hand circuit, unless a right-hand circuit is established for a particular runway, conforming as closely as possible to the altitude, speed and size of the circuit being made by other traffic. Entry to the circuit shall be made in such a manner so as to avoid "cutting off" other aircraft. At this time, the pilot shall note the location of the control tower, the wind direction, the direction of landing and the taxi pattern to be followed to clear the runway after landing. The pilot, while within the circuit, shall maintain such separation from the aircraft ahead that a landing can be made without overtaking it. Flights which are not in communication with the tower shall, at all times, be on the alert for visual signals.



LANDING CLEARANCE

A pilot must obtain landing clearance prior to landing. Unless the request has been anticipated by the controller initiating the clearance, pilots of aircraft equipped with two-way radio must request landing clearance. NORDO and RONLY aircraft shall be considered as intending to land when they join and conform to the traffic circuit. Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit.

Example:

Pilot: VICTORIA TOWER RMG LANDING CLEARANCE.

Tower: RMG VICTORIA TOWER CLEARED TO LAND. (if aircraft is equipped with retractable landing gear) CHECK GEAR DOWN.

NOTE: Pilots are cautioned that the phrase "check gear down" is used by air traffic controllers at the request of pilot organizations as a reminder only to a pilot that he should "check whether or not the landing gear is down and locked". It is not, under any circumstances, to be construed by pilots as meaning that the controller has observed and is confirming that the gear is actually down.

When an aircraft is on final approach and it appears that the runway may not be clear for landing, the pilot will be advised to "CONTINUE APPROACH, POSSIBLE PULL-UP". When a "pull-up" is necessary (before or after landing clearance has been issued) the pilot shall abandon his approach and make another circuit.

Example: PULL-UP AND GO AROUND, TRAFFIC STILL ON RUNWAY.

Common ATC Phraseologies:

BARRIER INDICATIONS UP/DOWN.

CAUTION, POSSIBLE TURBULENCE FROM LANDING (aircraft type and position).

MAKE LEFT/RIGHT 360.

MAKE FULL-STOP LANDING.

CONTACT TOWER/GROUND ON (frequency) AFTER LANDING/WHEN CLEAR OF RUNWAY/NOW.

TAXIING

After landing, aircraft clear the runway without delay by continuing forward to the nearest available taxi strip or turn-off point, unless otherwise instructed by air traffic control.

Example:

Tower: IGB ON AT THREE EIGHT CLEARED TO (ramp, gate or parking area) (any special instructions such as routing, traffic, cautionary or warning regarding construction or repair on the manoeuvring area).

RIGHT-HAND CIRCUITS - CONTROLLED AIRPORTS

Although the standard airport traffic circuit established in accordance with the Air Regulations is a left-hand circuit, conditions at certain locations such as two airports being in close proximity to each other or the need to avoid flying over heavily populated areas, have required the use of right-hand circuits.

NOTE: Refer to Notam "Special Procedures and Facilities Land Aerodromes" for detailed procedures.

SPEED LIMITATION AT CONTROLLED AIRPORTS

In order to reduce collision hazard in the vicinity of controlled airports it is considered advisable to operate aircraft at reduced airspeeds. When below 3,000 feet above ground and within 10 miles of the centre of a controlled airport, aircraft should be operated at an airspeed of 160 knots or less. For those aircraft which are unable to safely manoeuvre at this speed, it is recommended that they be operated at the minimum speed which permits safe control of the aircraft for the necessary flight manoeuvre.

SPEED ADJUSTMENT - RADAR-CONTROLLED AIRCRAFT

To avoid excessive vectoring when establishing an arrival sequence, controllers may request pilots of radar-controlled aircraft entering or about to enter the destination terminal area to adjust aircraft speed.

Speed adjustment requests will be expressed in units of ten knots or multiples of ten knots based on indicated airspeed (IAS). Pilots complying with speed adjustment requests are expected to maintain a speed within plus or minus ten knots of the specified speed.

Pilots of multi-engine aircraft may be requested to do one of the following:

- (a) Maintain present speed.
- (b) Increase speed to a specified speed or by a specified amount.
- (c) Reduce speed to a specified speed or by a specified amount.

Unless prior concurrence in the use of a lower speed is obtained from the pilot, the following minimum speeds will be applied to multi-engined aircraft:

- (a) For multi-engined turbojet and propeller-driven aircraft operating 30 miles or more from destination airport: -
Not less than 250 knots IAS.
- (b) For multi-engined turbojet and propeller-driven aircraft operating 20 to 30 miles from destination airport, and
 - (i) at or above 10,000 feet ASL: -
Not less than 250 knots IAS.
 - (ii) below 10,000 feet ASL: -
Not less than 200 knots IAS.
- (c) For multi-engined turbojet aircraft operating less than 20 miles from destination airport: -
Not less than 180 knots IAS.
- (d) For multi-engined propeller-driven aircraft operating less than 20 miles from destination airport: -
Not less than 150 knots IAS.

Pilots of single-engined aircraft, or of multi-engined aircraft, which cannot attain speeds as high as the minimum speeds specified above, may be requested to, if practicable, do one of the following:

- (a) Maintain a specified speed equivalent to that of a preceeding or succeeding aircraft; or
- (b) Increase or decrease speed by a specified amount.

When application of speed adjustment procedures is no longer necessary, the pilot concerned will be advised to resume normal speed except when an approach clearance is issued. Approach clearances supersede speed adjustment assignments and pilots are expected to make their own speed adjustments, as necessary, to complete the approach.

ADVANCE NOTICE OF ALTERNATE AIRPORT - JET AIRCRAFT

Missed approaches by jet aircraft can be handled more efficiently if the controller knows of the pilot's intentions in advance. He can use the extra time to plan for the possibility of a climb-out and thus provide better service in the event of an actual missed approach.

Pilots of jet aircraft are encouraged to adopt the following procedure as the occasion arises:

On receipt of approach clearance, when the ceiling and visibility reported at the destination airport are less than 100 feet or one mile above the minima published for the type of approach to be executed, the pilot should advise the controller as follows:

"In the event of missed approach request _____ (altitude or flight level)
via _____ (route) to _____ (airport)".

It is recognized that implementation of this procedure will increase communications congestion, but this can be minimized if pilots will employ it only when there is a reasonable chance that a missed approach may occur.

IFR APPROACHES

Pilots will be advised of the ceiling, visibility, wind, runway, altimeter setting and approach aid being used immediately prior to descent when direct IFR controller - pilot communications (DCPC) are employed.

When an approach clearance is issued the name of the approach as published will be used to designate the type of approach.

Example:

CLEARED TO THE TORONTO AIRPORT ILS RUNWAY 05 LEFT APPROACH
CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH.

The runway on which the aircraft is to land will be included in the approach clearance when a landing is to be made on a runway other than that aligned with the instrument approach aid being used.

Example:

CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH, CIRCLING
PROCEDURE FOR RUNWAY 32.

TERMINAL RADAR SERVICE

Radar separation is applied to arriving aircraft in order to establish and maintain the most desirable arrival sequence to avoid unnecessary "stacking". In the approach phase, radar vectoring is carried out to establish the aircraft on an approach aid. Aircraft are vectored so as to intercept the final approach course approximately 2 miles from the point at which final descent will begin. In the case of a precision radar approach, the aircraft is vectored by surveillance radar to a predetermined position, at which point control is transferred to the precision radar controller for the "talk-down".

Examples:

JWC, ARRIVAL, 3 MILES FROM THE OUTER MARKER. TURN LEFT HEADING 170 TO INTERCEPT
FINAL APPROACH COURSE. CLEARED TO THE TORONTO AIRPORT FOR STRAIGHT-IN ILS RUN-
WAY 14 APPROACH.

or, for radar approach -

JWC, ARRIVAL, TURN LEFT HEADING 170 FOR FINAL APPROACH. 8 MILES FROM THE AIRPORT.
CLEARED TO THE TORONTO AIRPORT FOR A PRECISION RADAR APPROACH, RUNWAY 14.

STRAIGHT-IN APPROACHES

ATC uses the term "straight-in approach" to indicate:

IFR: An instrument approach wherein final approach is begun without first having executed a procedure turn.

VFR: An approach wherein the traffic circuit is entered on the final leg without having executed any other portion of the circuit.

RADAR MONITORING OF ILS APPROACHES

Radar monitoring of ILS front or back course approaches will be provided whenever the ceiling is reported at or below 500 ft., the visibility is reported at or below one mile, or when requested by the pilot.

Monitoring will begin when the aircraft passes the final approach fix or when the aircraft is four nautical miles from the end of the runway, whichever point is farther from the runway. At this point the pilot will be requested to report when he has the runway in sight.

Advisory information will normally be transmitted on the localizer "voice" feature. When the localizer voice feature is not available, the primary "Precision" frequency will be used.

When approach clearance is issued, the pilot will be informed of the frequency on which the monitoring information will be transmitted.

Examples:

FOR RADAR MONITORING, LISTEN ON LOCALIZER VOICE, CONTACT MONTREAL TOWER ON 119 DECIMAL 1 NOW.

FOR RADAR MONITORING, CONTACT MONTREAL PRECISION ON 118 DECIMAL 0 NOW.

If monitoring cannot be provided, the pilot will be informed.

Example:

RADAR MONITORING NOT AVAILABLE.

When an approach is monitored, the following information will be provided:

- (a) Distance from "touchdown" point, at each one nautical mile interval from touchdown.
- (b) Notice that the aircraft has passed the final approach fix.
- (c) Position of the aircraft in relation to the final approach course and the glide path. This information will be issued in conjunction with the distance from touchdown information and whenever the aircraft deviates from the final approach course or glide path in excess of specified limits.

NOTE: Glide path information is not issued during a back course approach, since the descent paths of these approaches generally do not coincide with the depicted PAR glide path.

- (d) Warning of any situation which, in the controller's judgment, is likely to affect the safety of the flight.

Provision of advisory information will be terminated and the pilot so informed when:

- (a) The pilot reports the runway in sight, or
- (b) When the aircraft reaches the end of the runway.

When approaches are being monitored, the radar serves only as a secondary aid, since the pilot has chosen the ILS as the primary aid for the approach. Accordingly, controllers have been cautioned to avoid superfluous transmissions which might distract the pilot from the conduct of the approach.

VISUAL APPROACH

A visual approach is an approach by an IFR flight, operating clear of clouds and with at least one mile flight visibility, in which all or part of an instrument approach is not completed and the approach is executed by visual reference to the surface of the earth.

Unless special radar procedures are used, ATC may clear aircraft for a visual approach only at the request of the pilot and provided the ground visibility is at least one statute mile. When radar procedures are to be used, however, controllers may initiate a clearance for an aircraft to conduct a visual approach.

Special radar procedures have been developed for use during good weather conditions when instrument approaches are not necessary, to preclude unnecessary vectoring of IFR flights and to facilitate efficient sequencing of mixed IFR and VFR traffic on final approach. Whenever the ceiling is at least 500 feet above the minimum radar vectoring altitude and the ground visibility at least 5 statute miles, IFR aircraft may be vectored to the airport traffic circuit and cleared for a visual approach, provided:

- (a) The pilot has the airport in sight, and
- (b) The pilot has the aircraft that he is to follow in sight, and
- (c) The aircraft is in sight of the tower.

Radar separation from any preceding IFR aircraft will be provided until the clearance for a visual approach is issued. Radar service will be terminated when the pilot is told to contact the tower. The tower will assign a landing sequence number.

TRANSPONDER EQUIPPED AIRCRAFT

Transponders should be adjusted to "stand-by" or "off" as soon as practicable after landing is completed.

PROCEDURES FOR AIRCRAFT WITHOUT RADIO

At all times, the pilot should be on the alert for visual signals which may be given by the tower.

Traffic Circuit

The pilot shall join the traffic circuit on the upwind leg without obtaining any visual signal, care being taken not to "cut off" other aircraft. While within the circuit the pilot shall conform to the speed and size of the circuit maintaining such separation from the aircraft ahead so that a landing can be made without overtaking it. The pilot shall also have observed the wind direction, the direction for landing and the taxi pattern to be followed to clear the runway after landing.

Final Approach

Before turning on final approach, a pilot shall check for any aircraft on a straight-in approach.

Landing Clearance

Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit. (Note - Landing clearance may be withheld by the tower when there are preceding aircraft which have not landed or if the runway is not clear).

Taxiing

No taxi clearance is required after landing, except to cross the runway in use, or to taxi back to a turn-off strip. When an aircraft's landing run carries it past the last available turn-off point, it shall proceed to the end of the runway and be taxied to one side, waiting there until clearance is received to taxi back to the nearest turn-off point.

VISUAL SIGNALS

Authorized visual signals used by the tower and their meanings are as follows:

To aircraft in flight:

1. STEADY GREEN LIGHT - Cleared to land.
2. STEADY RED LIGHT - Give way to other aircraft and continue circling.
3. A SERIES OF GREEN FLASHES - Return for landing.
(Note: This shall be followed at the proper time by a steady green light.)
4. A SERIES OF RED FLASHES - Airport unsafe; do not land.
5. THE FIRING OF A RED PYROTECHNICAL LIGHT - Whether by day or night and notwithstanding previous instructions, means do not land for the time being.

Acknowledgement of Visual Signals

A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals.

Signals may be acknowledged as follows:

- (a) Distinct rocking of aircraft in flight.
- (b) At night, by a single flash of a landing light.

PROCEDURES FOR AIRCRAFT EQUIPPED WITH RECEIVER ONLY

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only except that an airport controller may request the pilot to acknowledge a transmission in a specified manner. After the initial acknowledgment no further acknowledgment, other than compliance with clearances and instructions is necessary, unless otherwise requested by the controller.

SPECIAL PROCEDURES

GOOSE UPPER FLIGHT INFORMATION REGION

The Goose Upper Flight Information Region (UIR) is designated as that airspace described in the NOTAM entitled "Canadian Airspace Characteristics".

Flight Information Service is provided from the Goose Area Control Centre to all aircraft operating within the Goose UIR.

Within the Goose UIR, altimeters shall be set to Standard Pressure (29.92 inches of mercury or 1013.2 mbs.) and flight levels flown in accordance with the following table:

<u>True Track</u>	<u>Flight Levels</u>
Between 000° and 179° inclusive	250, 290, 330, 370, 410, 450, etc.
Between 180° and 359° inclusive	270, 310, 350, 390, 430, 470, etc.

All flights operating within the Goose UIR are requested to comply with the flight planning, reporting and communication procedures described as follows:

Flight Planning

Flight plans should be filed in accordance with ICAO flight planning procedures. The route of flight should be defined by listing, in latitude and longitude:

- (i) the points of entry into and exit from the UIR; and
- (ii) sufficient additional points to adequately portray the intended track, including, where the duration of flight within the area is estimated to exceed one hour, a point at a position approximately midway through the UIR.

Position Reporting

Position reports should be made at the following locations in accordance with ICAO AIREP format (including Section 3);

- (i) the points of entry into and exit from the UIR; and
- (ii) where listed in the flight plan, at the position approximately midway through the UIR; and
- (iii) at such other points as may be considered desirable by the pilot or requested by ATC.

Special Report

A special report should be made whenever a change is made in flight level or route last notified to ATC.

Air/Ground Communications

The Resolute Aeradio Station is the primary air/ground communication station serving the Goose UIR. Communication should be established with Resolute on the appropriate published frequency on entry into the area and a listening watch on this station maintained while in the area. If communication cannot be established with Resolute, position reports and special reports should be made to Frobisher, Edmonton, or other International Stations within the areas adjacent to the Goose UIR, on published frequencies.

NORTH ATLANTIC OCEANIC CONTROL PROCEDURES

Flight Planning Procedures for Westbound North Atlantic Non-Stop Flights

Pilots of potential non-stop westbound flights may flight plan to any suitable aeronautical radio facility or designated intersection east of 70°00'W, and in addition, specify route and altitude to any of the approved Regular or Alternate aerodromes listed in the current DOT Information Circular on "USE OF AERODROMES BY AIRCRAFT ENGAGED IN FLYING INTERNATIONAL ROUTES" for use as the flight planned alternate.

Prior to reaching the flight planned fix or clearance limit, the pilot, after assessing the onward flight conditions, will normally file to the airport of ultimate destination and will request an ATC clearance accordingly. However, should it be determined that flight to the airport of destination is undesirable, the pilot will file to a regular or alternate airport and request an appropriate ATC clearance.

If for any reason an onward ATC clearance from the flight planned fix is not obtained by the time the fix is reached, the pilot must proceed towards the alternate in the manner specified in the flight plan or amendments thereto.

This procedure is designed only to facilitate the operation of certain types of aircraft in use on the North Atlantic with a long range capability. It is not designed or intended to increase the use of any of the approved Alternates, except under proper circumstances. Any abuse of the procedure may result in the arrangement being cancelled.

Special Flight Planning Procedures

All eastbound and westbound aircraft planning to operate within the Gander Oceanic Control Area must flight plan so that each ten degrees of longitude (60°00'W, 50°00'W, 40°00'W, 30°00'W) as applicable are crossed at whole degrees of latitude. All flights must be operated on a great circle track joining successive significant points.

Special Arrangements for Reduced Lateral Separation

Eastbound aircraft on diverging tracks from North America which are separated by 60 nautical miles within 250 nautical miles of a ground navigational facility will be deemed to have lateral separation provided the tracks diverge to establish 120 nautical miles separation at the next designated reporting point. The minimum lateral separation applied is 120 nautical miles between the tracks of all aircraft.

Position Reporting Procedures

Specific reporting procedures required for flight operating through the Gander Oceanic Control Areas are detailed as follows:

- A. Flights operating within the Gander Oceanic Control Area shall make position reports in accordance with the reporting procedures detailed in ICAO DOC 7030 to Gander (primary) or Goose (secondary) on the appropriate international air/ground frequencies as follows:
1. Westbound flights below FL 290
 - (a) At and south of 53°00'N shall report at 30°00'W, 40°00'W, 45°00'W, 50°00'W and over or abeam the first NDB, RNG, or VOR.
 - (b) North of 53°00'N shall report at 30°00'W, 40°00'W, 45°00'W, 50°00'W and the Domestic/Oceanic Boundary.
 - (c) Flights entering the area west of 30°00'W shall report at the Oceanic Boundary and at 40°00'W, 45°00'W, 50°00'W and over or abeam the first NDB, RNG, VOR, or the Domestic/Oceanic Boundary, as appropriate.
 2. Westbound flights at or above FL 290

All flights shall report as specified above, with the exception of the 45°00'W report.
 3. All eastbound flights
 - (a) At and south of 53°00'N shall report at 50°00'W, 40°00'W and 30°00'W.
 - (b) North of 53°00'N shall report at the Domestic/Oceanic Boundary, 50°00'W, 40°00'W and 30°00'W.
 - (c) Flights entering the area east of 50°00'W shall report at the Oceanic Boundary, 40°00'W and 30°00'W as appropriate.

- B. Westbound flights from the Gander Oceanic Control Area which will enter the Goose Northern Control Area/Flight Information Region, shall contact the Goose Centre, Goose or Frobisher International Radio Station, Cartwright, Hopedale, Saglek, Resolution Island or Frobisher Radio Station, whichever is appropriate, as soon as possible when approaching the Boundary.
- C. All flight operating in that portion of the Gander Oceanic Control Area over Southern Greenland and the adjoining waters at FL 160 and above should report primarily to Gander or, alternatively, to Goose, Prins Christian Sund or Frobisher, on international air/ground frequencies.
- D. In addition to maintaining a listening watch on the appropriate enroute frequency, high level flights which will operate within 200 nautical miles and low level flights which will operate within 150 nautical miles of Gander or Goose are to establish communication with "Gander Centre" or "Goose Centre", whichever is appropriate, as soon as possible, and maintain a listening watch on one of the following frequencies:
1. GANDER CENTRE
 - (a) At and above FL 290
 - (i) Primary - 133.9 or 294.5 mcs.
 - (ii) Secondary - 119.7, 384.5, 125.9 or 119.4 mcs.
 - (b) Below FL 290
 - (i) Primary - 119.7 or 294.5 mcs.
 - (ii) Secondary - 119.9 or 384.5 mcs.
 2. GOOSE CENTRE
 - (a) At and above FL 290
 - (i) Primary - 133.1 or 324.3 mcs.
 - (ii) Secondary - 132.4 or 294.5 mcs.
 - (b) Below FL 290
 - (i) Primary - 120.4 or 294.5 mcs.
 - (ii) Secondary - 132.4 or 324.3 mcs.

Mach Numbers

The following procedures are applicable to jet aircraft equipped with Mach meter systems and operating in the Gander Oceanic Control Area:

- (a) Enter the Mach number(s) as well as true airspeed(s) in the flight plan; eg., .82/540.
- (b) The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero point zero one (0.01) and ATC approval shall be requested before making any change. If it is necessary to make an immediate temporary change in Mach number (e.g., due to turbulence), ATC must be notified as soon as possible that such a change has been made.
- (c) The current Mach number shall be transmitted with each position report.
- (d) ATC will include in each clearance an approved Mach number.
- (e) Operators are requested to ensure that Mach meter systems of aircraft be carefully calibrated in order to allow correct use of this equipment.

EMERGENCIES

DECLARATION OF EMERGENCY

Whenever pilots are faced with an emergency situation, ATC expects the pilot will take whatever action is considered necessary. ATC will assist pilots in any way possible whenever an emergency is declared. Pilots are requested to advise ATC as soon as practicable of any deviations from altitude or route necessitated by an emergency situation, in order that every effort can be made to minimize conflict with other aircraft. Pilots are reminded that they may be asked by ATC for a written report concerning the nature of a declared emergency.

Pilots of transponder equipped aircraft, when experiencing an emergency and unable to establish communications immediately with an air traffic control unit, may indicate "Emergency" to ATC by adjusting the transponder to reply on Mode A/3, Code 77. Thereafter, radio communications should be established with ATC as soon as possible.

NOTE: It should be pointed out that, when use is made of Code 77, the signal may not be detected either because the aircraft is not within SSR coverage, or because the ATC unit concerned is using SSR equipment which does not automatically detect Code 77.

COMMUNICATIONS FAILURE IN IFR FLIGHT

All pilots and operators are urged to study the "Communications Failure in IFR Flight Order" (Air Navigation Order, Series V, No. 5).

While it is not proposed to repeat the contents of this Air Navigation Order, the following points of major importance are emphasized:

- A. Should a communication failure occur when operating in VFR weather conditions, or should VFR weather conditions be subsequently encountered, the pilot must continue to fly in VFR weather conditions and land at the nearest suitable aerodrome;
- B. Should the failure occur when operating in IFR weather conditions and should VFR weather conditions not be encountered, the pilot shall:
 - (1) except under the circumstances covered in (2) proceed to the aerodrome of first intended landing in accordance with the flight plan as amended by clearances and instructions received and acknowledged, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher; and on reaching the facility to be used for approach, commence a complete instrument approach at whichever of the following times is the latest:
 - (a) the time of arrival or
 - (b) the estimated time of arrival last notified to and acknowledged by air traffic control, or
 - (c) the expected approach time last received and acknowledged.
 - (2) if flying a turbine-powered (turbo-propeller or turbo-jet) aircraft and cleared on departure to a point other than destination, proceed to the destination aerodrome in accordance with the flight plan, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher, until ten minutes beyond the point specified in the clearance (clearance limit) and then proceed at the altitude(s) or flight level(s) filed in the flight plan. On reaching the facility to be used for approach at the destination aerodrome, commence a complete instrument approach at either the time of arrival or the estimated time of arrival last notified to and acknowledged by air traffic control, whichever is the later.
- C. If a communication failure occurs after the pilot has received holding instructions and the procedure in B is being followed, he shall leave the holding point at the time specified in the clearance, the expected further clearance time, or the expected approach time, whichever has been issued.

When Air Traffic Control clears a turbine-powered aircraft to the aerodrome of first intended landing, it will be at an altitude or flight level considered operationally suited to these aircraft. In these circumstances, should a communications failure occur, it will be possible for the aircraft to proceed to the aerodrome of first intended landing at the assigned altitude or flight level.

On flights from Canada to the United States, should a communication failure occur prior to crossing the border, the pilot of a turbine-powered aircraft, who is complying with Para. B. (2), will consider the altitude at which he has flight planned for the border crossing segment of the route as the last assigned altitude for the purpose of complying with the United States communication failure regulations on entering United States airspace. When the aircraft will enter United States airspace within 10 minutes after passing the clearance limit, climb to the flight planned border crossing altitude is to be commenced at the estimated time of crossing the Canada/United States boundary.

Pilots of transponder equipped aircraft, when experiencing a two-way communication failure, may indicate the situation to ATC by selecting Mode A/3 Code 76. This action is an indication of the situation only, and does not relieve the pilot of the requirement to comply with the "Communications Failure in IFR Flight Order" (ANO Series V, No. 5).

NOTE: When use is made of Code 76, the signal may not be detected either because the aircraft is not within SSR coverage or because the ATC unit concerned is using SSR equipment which does not automatically detect Code 76.

Should a situation develop for which there is no laid down procedure, the pilot-in-command will be expected to act in accordance with his own judgement. In any event, ATC will protect the airspace in the immediate vicinity of the aerodrome of first intended landing for a period of 30 minutes from the time at which the aircraft is expected to commence approach.

SEARCH AND RESCUE

Pilots of all aircraft are referred to the Information Circular entitled "Search and Rescue". This circular describes the Search & Rescue service provided by the Department of National Defence and includes information on the following topics:

- (a) Sarah Beacon - operating instructions and procedures
- (b) Aircraft Marking
- (c) Ground Air Visual Signal Code
- (d) Search & Rescue, standard procedures for pilots
- (e) Radar Assistance to Aircraft
- (f) Interception Signals.

EMERGENCY RADAR SERVICE TO VFR FLIGHTS

Radar equipped ATC units will provide all possible assistance to VFR flights which are unable to remain VFR, or are in any type of emergency or distress. Pilots desiring radar assistance for other reasons should refer to the section of this NOTAM entitled "Radar Assistance to VFR Flights".

Emergency radar assistance will be given to VFR flights which are able to maintain two-way radio communication with the unit, are within radar coverage, and can be radar identified.

Pilots requiring radar assistance during emergency conditions should contact the nearest ATC unit and provide the following information:

- (a) Declaration of emergency (state nature of difficulty and type of assistance required).
- (b) Position of aircraft and weather conditions within which the flight is operating.
- (c) Type of aircraft, altitude, and whether equipped for IFR flight.
- (d) Whether pilot has an IFR Rating.

FLIGHT INFORMATION SERVICE

GENERAL

Flight information service is provided by air traffic control units to assist pilots of aircraft by supplying information concerning known hazardous flight conditions. This information will include data concerning unfavourable flight conditions and other known hazards, which may not have been available to the pilot prior to take-off or which may have developed along the route of flight.

The air traffic control service has been established primarily for the prevention of collisions and the expediting of traffic. The provision of such service will take precedence over the provision of flight information service, but every effort will be made to provide flight information and assistance.

Flight information will be made available, whenever practicable, to any aircraft in communication with an air traffic control unit, prior to take-off or when in flight, except where such service is provided by the aircraft operator. Many factors (such as volume of traffic, controller workload, communications frequency congestion and limitations of radar equipment) may prevent a controller from providing this service.

VFR flights will be provided with information concerning:

- (a) Severe weather conditions along the proposed route of flight;
- (b) Changes in the serviceability of navigational aids;
- (c) Condition of Airports and associated facilities;
- (d) Other items considered pertinent to the safety of flight.

IFR flights will be provided with information concerning:

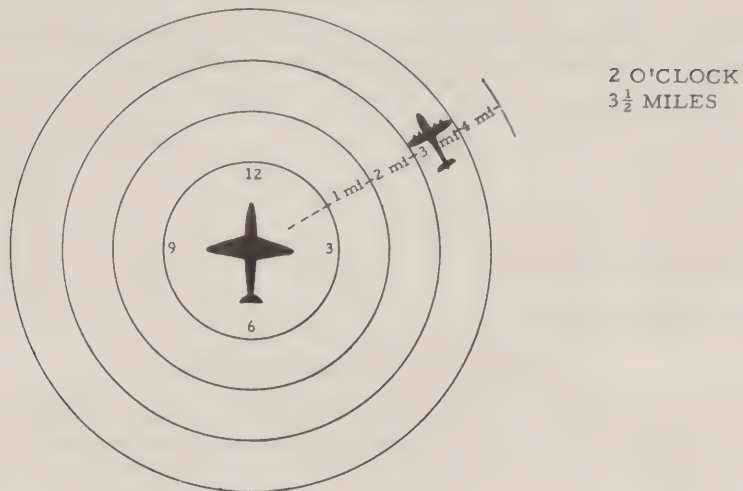
- (a) Severe weather conditions;
- (b) Weather conditions reported or forecast at destination or alternate aerodrome;
- (c) Changes in the serviceability of navigational aids;
- (d) Condition of airports and associated facilities;
- (e) Other items considered pertinent to the safety of flight.

Flight information messages are intended as information only. If a specific action is suggested, the message will be prefixed by the term "ATC SUGGESTS" or "SUGGEST YOU" and the pilot will be informed of the purpose of the suggested action. The pilot is responsible for making the final decision concerning any suggestion.

Surveillance radar equipment is frequently used in the provision of information concerning severe weather conditions, chaff drops, bird activity and possible traffic conflicts. Due to limitations inherent in all radar systems, aircraft, weather disturbances, etc., cannot be detected in all cases.

When issuing radar information, ATC will frequently define the relative location of traffic, weather areas, etc. by referring to the "clock" position system. A pilot receiving such information may determine the approximate location of traffic, weather, etc., in relation to his track which, regardless of direction is always considered as 12 o'clock.

The following diagram illustrates the 'clock' system.



Traffic information in this case will be issued as follows:

"TRAFFIC, 2 O'CLOCK 3 1/2 MILES, NORTHWEST-BOUND".

NOTE: The relative speed and the type of aircraft and altitude if known will be given.

BIRD ACTIVITY INFORMATION

Information concerning bird activity, obtained through controller's observations or pilot reports, will be provided to aircraft operating in the area concerned. In addition, pilots may be warned of possible bird hazards if radar observation indicates the possibility of bird activity. Information will be provided concerning:

- (a) Size or species of bird, if known
- (b) Location

- (c) Direction of flight
- (d) Altitude, if known.

CHAFF INFORMATION

ATC will provide pilots who intend to operate through the area concerned with all available information relating to proposed or actual chaff drops. This information will include:

- (a) Location of the chaff drop area
- (b) Time of drop
- (c) Estimated speed and direction of drift
- (d) Altitudes likely to be affected
- (e) Relative intensity of chaff.

SEVERE WEATHER INFORMATION

Whenever practicable, ATC will provide flights with severe weather information pertinent to the area concerned. Pilots may assist ATC by providing pilot reports of severe weather conditions which they encounter. ATC will endeavour to suggest alternate routes available in order to avoid areas in which severe weather exists.

Radar-equipped ATC units can often provide information on the location and movement of areas of heavy precipitation. However, during severe weather conditions the radar may be adjusted to eliminate or reduce radar returns from heavy precipitation areas in order to permit the detection of aircraft. When requested by a pilot, and provided traffic conditions permit, controllers will provide the pilot with detailed information on the location of heavy precipitation areas.

RADAR TRAFFIC INFORMATION

ATC will provide IFR and CVFR flights with information on observed radar targets whenever it is believed the traffic will be of concern to the pilot, unless the pilot states he does not want the information. This information may be provided to VFR aircraft when requested by the pilot.

If requested by the pilot, ATC will attempt to provide radar separation between identified IFR aircraft and the unknown observed aircraft.

Traffic information, when passed to radar-identified aircraft will be issued as follows:

1. Position of the traffic in relation to the aircraft.
2. Direction in which the traffic is proceeding
3. Type of aircraft and altitude, if known, or the relative speed of the traffic.

Example:

TRAFFIC, 10 O'CLOCK, 6 MILES, SOUTHEAST-BOUND,
(type of aircraft and altitude, or relative speed).

An aircraft not radar-identified would be issued traffic information in the following manner:

1. Position of the traffic in relation to a fix
2. Direction in which the traffic is proceeding
3. Type of aircraft and altitude, if known, or relative speed.

Example:

TRAFFIC, 7 MILES SOUTH OF QUEBEC RANGE, NORTHBOUND.
(type of aircraft and altitude, or relative speed).

RADAR NAVIGATION ASSISTANCE

When requested by pilots, radar-equipped ATC units will provide assistance to navigation in the form of position information, vectors or track and groundspeed checks. Flights requesting this assistance must be operating within areas of radar and communication coverage and be radar-identified.

VFR flights may be provided this service:

- (a) at the request of a pilot, when traffic conditions permit, or
- (b) when the controller suggests and the pilot concurs, or
- (c) in the interest of flight safety.

The responsibility for avoiding other aircraft and maintaining flight in VFR weather conditions remains with the pilot of a VFR flight being provided with radar vectors.

If a radar vector will lead a VFR flight into IFR weather conditions the pilot must inform the controller and take the following action:

- (a) if practicable, obtain a vector which will allow the flight to remain in VFR weather conditions, or
- (b) if an alternative vector is not practicable, revert to navigation without radar assistance, or
- (c) if the pilot has an IFR rating and the aircraft is equipped for IFR flight, he may file an IFR flight plan, and request an IFR clearance.

AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS)

Automatic Terminal Information Service (ATIS) is the continuous broadcast of recorded non-control information on a VOR or discrete VHF/UHF frequency.

Provisions have been made to install ATIS equipment at Montreal, Ottawa, Toronto, Winnipeg, Calgary and Vancouver during 1966-67. The first installation is now in service at Toronto. As additional installations are completed, the date of commissioning will be announced by a Class I NOTAM.

ATIS messages are recorded in a standard format and contain such information as:

- i) Current weather at the airport, including ceiling and sky condition, visibility, obstructions to visibility, temperature, dew point and altimeter setting.
- ii) The type/s of instrument approach and runway/s in use for arriving aircraft.
- iii) The runways/s in use for departing aircraft.
- iv) NOTAMS or excerpts from NOTAMS regarding the serviceability of pertinent aids to navigation and field conditions which would affect arriving or departing aircraft.

Each recording will be identified by a phonetic alphabet code, beginning with "ALPHA". Succeeding letters will be used for each subsequent message.

Example of ATIS Message

"THIS IS TORONTO INTERNATIONAL AIRPORT INFORMATION BRAVO. TORONTO WEATHER: TWO THOUSAND SCATTERED, MEASURED CEILING THREE THOUSAND OVERCAST, VISIBILITY FIVE, HAZE; TEMPERATURE SIX FIVE, DEW POINT SIX ZERO; WIND ONE THREE ZERO AT TEN; ALTIMETER TWO NINE NINE TWO. EXPECT ILS RUNWAY ONE FOUR APPROACH. LANDING RUNWAY ONE FOUR. DEPARTURES ON RUNWAY ONE ZERO. NOTAM, GLIDE PATH ILS RUNWAY ZERO FIVE RIGHT OUT OF SERVICE UNTIL FURTHER NOTICE. INFORM TORONTO ATC ON INITIAL CONTACT THAT YOU HAVE RECEIVED INFORMATION BRAVO."

NOTE: Current time and RVR measurements will not be included in the ATIS message, but will be issued in accordance with current practices.

Pilots hearing the broadcast should inform the ATC unit first contacted (centre, terminal, ground, tower, etc.) that they have received the information, by repeating the code word which identifies the message, thus obviating the need for the controller to issue information.

Example

".....I HAVE RECEIVED INFORMATION BRAVO"

During periods of rapidly changing conditions which would create difficulties in keeping the ATIS message current, the following message will be recorded and broadcast:

"BECAUSE OF RAPIDLY CHANGING WEATHER/AIRPORT CONDITIONS, CONTACT ATC FOR CURRENT INFORMATION."

The success and effectiveness of ATIS is largely dependent upon the cooperation and participation of airspace users. Although participation is voluntary, pilots are urged to cooperate in the ATIS programme as the service is introduced.



• R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Aerodromes - Land

5/67
3rd March

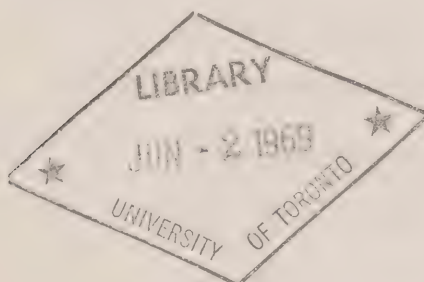
Page 1 of 4

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Special Procedures and Facilities
Land Aerodromes
(Amending and Supplementing NOTAM 21/66)

Chatham, N. B.	(Revised Special Procedures)
Hope, B. C.	(Revised Glider and Gyroplane Operation)
Ottawa Int'l Airport, Ont.	(Cancellation of Special Procedures)
Regina, Sask.	(Addition of Special Procedures)
Resolute, N. W. T.	(Addition of Advance Notification of Requirements for Meteorological Services)
Buttonville Airport, Toronto, Ont.	(Additional Minimum Aircraft Radio Equipment)
Highwater, Que. (Montreal, Que.)	(Additional Special Procedures-Aeroballistic Firing Range)



TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

CHATHAM, N.B.

The section Special Procedures on page 5 of NOTAM 21/66 is superseded by the following:

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within a radius of 45 statute miles of the DND Aerodrome at Chatham, N. B.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 45 miles of Chatham, N. B., unless:

- a. the aircraft is equipped with serviceable two-way radio;
- b. a clearance has been received from Chatham Control Tower or Terminal Control Unit; and
- c. a listening watch is maintained on a frequency assigned by the Chatham Control Tower or Terminal Control unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise vigilance; to remain well clear of cloud and well clear of the DND Aerodrome at Chatham and the area described as follows: the area bounded by a line from Chatham Aerodrome; 47°10'N, 64°50'W; 47°00'N, 64°50'W; to the point of beginning.

In addition to the foregoing, flights of civilian aircraft using the Douglastown Air Strip, while within the Chatham Control Zone, (10 statute mile radius of Chatham aerodrome) should avoid that part of the Control Zone lying South of the South Bank of the Miramichi River and West of the Eastern limits of the Town of Newcastle. This includes arrivals and departures as well as local flights. Exceptions to this rule may be granted for flights equipped with two-way radio and in contact with Chatham Tower or Terminal Control.

Primary communication frequencies are as follows:

Chatham Terminal Control - 123.7, 346.9

Chatham Tower - 126.2, 121.5, 3023.5R, 278T, 236.6

HOPE, B.C.

The section Glider and Gyroplane Operation on page 33 of NOTAM 21/66 is superseded by the following:

GLIDER AND GYROPLANE OPERATION

"Pilots operating in the vicinity of the Hope Airport (49°22'N, 121°29'W) should watch for gliders and gyroplanes operating in the area on week-ends and holidays up to an altitude of 12,000'. These aircraft will be utilizing the area north of the runway centreline for take-offs and landings. A winch cable may also be used in this area up to 1500'.

Conventional aircraft should use the half of the runway south of the centreline".

OTTAWA INT'L AIRPORT, ONT.

The Special Procedures - Ottawa Int'l Airport are cancelled.

The section Special Procedures - Ottawa Int'l Airport, on pages 17 and 18 of NOTAM 21/66 is to be deleted.

REGINA, SASK.

A new section Special Procedures is added to NOTAM 21/66 as below:

SPECIAL PROCEDURES

The use of hard surface runways is restricted to aircraft with functioning two-way radio. NORDO and RONLY aircraft are to land and take off using the grass area North of the runways.

RESOLUTE, N.W.T.

A new section Advance Notification Requirements for Meteorological Service is added to NOTAM 21/66 as below:

RESOLUTE, N.W.T.

ADVANCE NOTIFICATION REQUIREMENTS FOR METEOROLOGICAL SERVICE

The meteorological staff at Resolute are frequently hampered in providing pre-flight weather service by lack of sufficient prior notification.

Pilots and aircraft operators are reminded that in their own best interests sufficient advance notice of their requirements must be given so that meteorological staff will be on hand to prepare pre-flight material and to obtain information not regularly available at Resolute from other stations.

For routine trips the forecast office should be notified at least three hours prior to the time at which the forecast or briefing is required. Notification relating to a long range flight should be given at least 12 hours before the estimated time of departure. The following information should be provided: (1) place and estimated time of departure; (2) destination and estimated time of arrival; (3) alternates for which terminal forecasts are required; (4) proposed cruising altitude of flight; (5) flight rules applicable; (6) time briefing is required.

If time on the ground at Resolute does not permit such advance notice, the request should be placed by message in advance of arrival. Priority of meteorological service will be given to flights which have provided prior notice of requirement for service.

The co-operation of all pilots and operators is earnestly requested.

BUTTONVILLE AIRPORT, TORONTO, ONT.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Effective May 1st 1967, unless otherwise authorized, aircraft taking-off and landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES

Buttonville Tower operates daylight hours only, except Mondays and Wednesdays when it operates until 0400Z for night flying training.

Communication Frequencies are as follows:

Tower	- 120.1, 212 Kcs T, 122.5R (3023.5R on request only)
Ground	- 121.8
Emergency	- 121.5

HIGHWATER, QUE. (MONTREAL, QUE.)

SPECIAL PROCEDURES

AEROBALLISTIC FIRING RANGE

All operators and pilots are notified that firings of aeroballistic vehicles will take place from the vicinity of Highwater, Que., intermittently throughout the year.

Dependent on the characteristics of each vehicle, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 15 minutes from the time of launch. The point of launching and the point of impact will lie within the following area: - from 45°00'30"N, 72°27'36"W, thence westerly along the Canadian/U.S. boundary to 45°00'27"N, 72°33'W, thence to 45°01'44"N, 72°33'W, thence to 45°01'44"N, 72°27'36"W, thence to point of beginning.

Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the area during the operation in question and all practicable safety precautions will be taken. No vehicle will be launched if it is known that any aircraft is likely to be in such a position that either the trajectory or impact could occasion a hazard.

A Class One NOTAM will be issued approximately 24 hours in advance of each launch. The airspace associated with the area designated will be released as soon as possible after impact is confirmed, or if the time of launch is delayed for any appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the area.

In view of the limited duration of each vehicle flight and the safety precautions which will be adopted, it is considered unnecessary for the area to be designated as a Danger Area. Operators and pilots should watch for Class One NOTAMs pertaining to vehicle launches, and, before traversing any part of the airspace over the area described above, pilots should communicate with Montreal Air Traffic Control Centre, either directly or via the normal communications network.



(R. W. Goodwin),
Director, Civil Aviation.

NOTAM



Hazards and Obstructions

6/67
3rd March

Page 1 of 5

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Hazards to Air Navigation
(Amending and Supplementing NOTAM 18/66)

CONTENTS

General Hazards

Military Flying Activity - North Atlantic
(Additional Hazard)

Obstructions Potentially Hazardous to Aircraft
Operations Listed by Provinces

Alberta

Bonneyville TV2 Tower
(Revised Height Above Sea Level)

Quebec

Firing Range, Highwater, Quebec
(Additional Hazard)

Manitoba

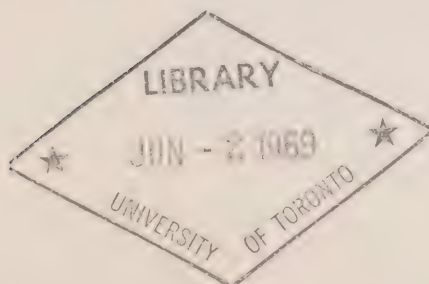
Tall Structure, Fisher Branch, Man.
(Additional Hazard)

Alberta

Parachute Jumping Area - Westlock, Alta.
(Additional Hazard)

British Columbia

Airport Hazard - Port Hardy, B.C.
Bird Hazard - Reifel Island, B.C.
(Additional Hazards)





GENERAL HAZARD

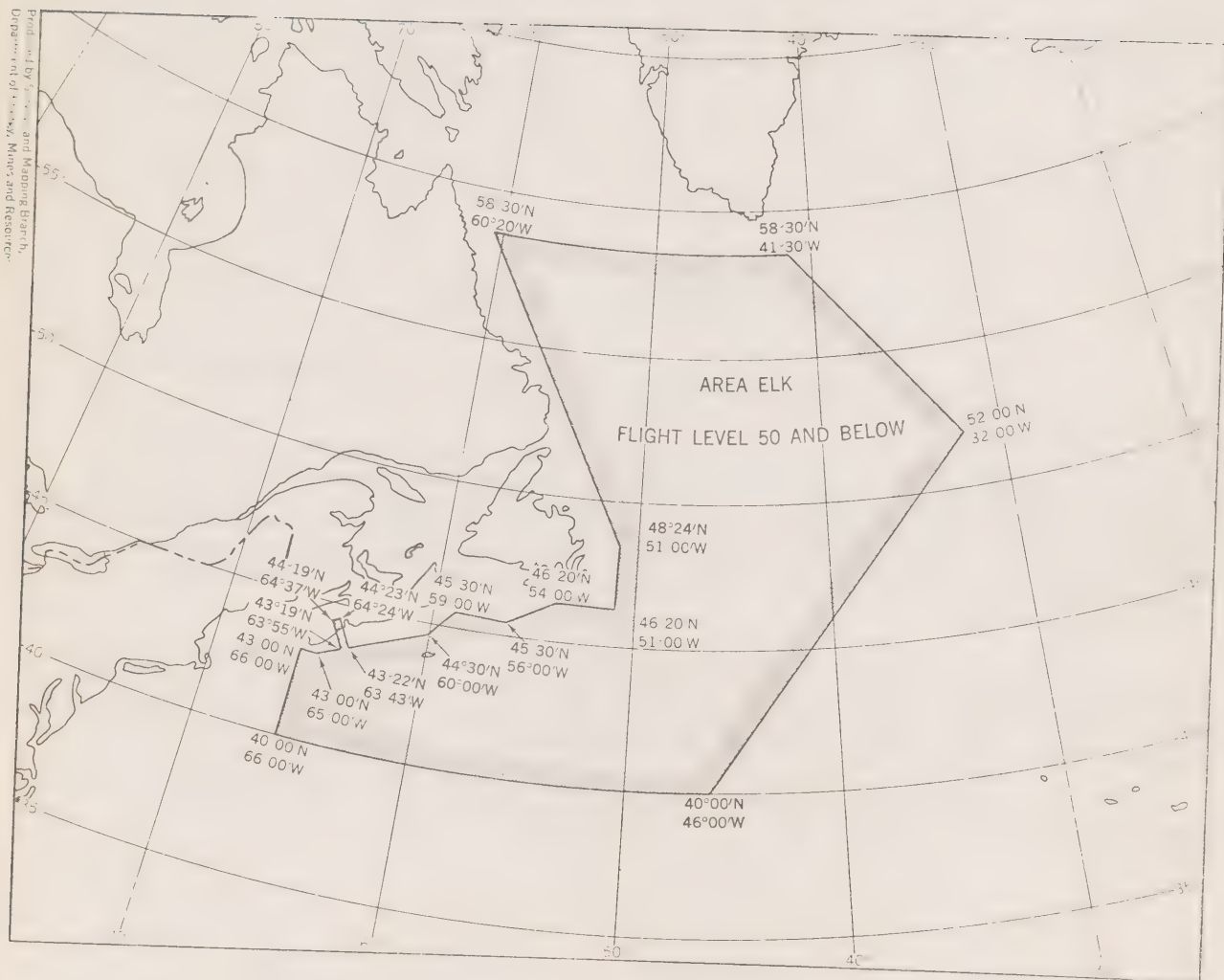
Military Flying Activity - North Atlantic

The Department of National Defence advises that an area over the North Atlantic is being used extensively as airspace for day and night military air operations.

The area, which is depicted on the reverse side of this NOTAM, consists of that airspace extending upwards from the surface to Flight Level 50 and encompasses the following area: From 43°00'N, 66°00'W to 43°00'N, 65°00'W to 44°30'N, 60°00'W to 45°30'N, 59°00'W to 45°30'N, 56°00'W to 46°20'N, 54°00'W to 46°20'N, 51°00'W to 48°24'N, 51°00'W to 58°30'N, 60°20'W to 58°30'N, 41°30'W to 52°00'N, 32°00'W to 40°00'N, 46°00'W to 40°00'N, 66°00'W to the point of origin, plus a ten-mile extension from 44°19'N, 64°37'W to 44°23'N, 64°24'W and 43°19'N, 63°55'W to 43°22'N, 63°43'W.

Military aircraft are conducting daily all weather operational flights in the area. These aircraft are required to operate on various headings and altitudes up to and including Flight Level 50 and to make rapid climbs and descents without prior warning. These aircraft, because of operational considerations, operate without navigation and identification lights during the hours of darkness.

Pilots who propose to fly within this area are advised to file a flight plan before entering the area and to exercise extreme caution when flying within the area.



ALBERTA

Tall Structures 500 feet or Higher Above Ground Level Considered Potentially Hazardous to Aircraft Operations is amended as follows:

Bonneyville, Alta. - The height above sea level of CHSA TV2 TOWER should read 2554'.

QUEBEC

Hazard to Aircraft Operations - Highwater, Quebec.

All operators and pilots are notified that firings of aeroballistic vehicles will take place from the vicinity of Highwater, Quebec, intermittently throughout the year.

Dependent on the characteristics of each vehicle, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 15 minutes from the time of launch. The point of launching and the point of impact will lie within the following area:- from 45°00'30"N, thence westerly along the Canadian/U.S. boundary to 45°00'27"N, 72°33'W, thence to 45°01'44"N, 72°33'W, thence to 45°01'44"N, 72°27'36"W, thence to point of beginning.

Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the area during the operations in question and all practicable safety precautions will be taken. No vehicle will be launched if it is known that any aircraft is likely to be in such a position that either the trajectory or impact could occasion a hazard.

A Class One NOTAM will be issued approximately 24 hours in advance of each launch. The airspace associated with the area designated will be released as soon as possible after impact is confirmed, or if the time of launch is delayed for an appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the area.

In view of the limited duration of each vehicle flight and the safety precautions which will be adopted, it is considered unnecessary for the area to be designated as a Danger Area. Operators and pilots should watch for Class One NOTAMS pertaining to vehicle launches, and, before traversing any part of the airspace over the area described above, pilots should communicate with Montreal Air Traffic Control Centre, either directly or via the normal communications network.

MANITOBA

Tall Structures 500 feet or Higher Above Ground Level Considered Potentially Hazardous to Aircraft Operations

<u>Area</u>	<u>Structure</u>	<u>Site Location</u> <u>Lat. N, Long. W.</u>	<u>Height</u> <u>Above Grade</u>	<u>Height Above</u> <u>Sea Level</u>
Fisher Branch, Man.	TV Tower	51°04'50", 97°38'55"	598'	1418'

ALBERTA

Parachute Jumping Areas - Alberta

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

Westlock, Alta.

From time to time in the vicinity of the Westlock Airport, Alberta, located at 54°10'N, 113°52'W, parachute jumps are made from a maximum height of 12,500 feet above ground level to a target landing area within the confines of the airport.

BRITISH COLUMBIA

Hazards to Aircraft Operations

Port Hardy Airport

Pilots are advised that the grass areas adjacent to all runways are unsafe for aircraft traffic and that a gutter 6 inches deep and 36 inches wide runs along the north edge of Runway 10-28.

Reifel Island

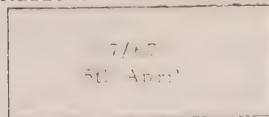
Reifel Island (49°06'N, 123°07'W) approximately 5 miles south of Vancouver International Airport is designated a bird sanctuary. Large flocks of birds may be encountered at low altitudes during all months of the year. Pilots are requested to avoid Reifel Island particularly at low altitudes.


(R. W. Goodwin),
Director, Civil Aviation.

NOTAM



Publications
Hazards and Obstructions



Page 1 of 2

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

HAZARDS TO AIR NAVIGATION
(Supplementing NOTAM 18/66)

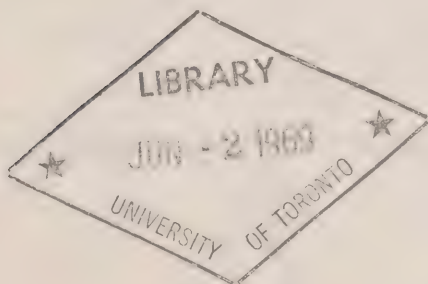
Danger Areas - Strait of Georgia, B.C.

The Department of National Defence will be employing surface and air craft in surface-to-air gunnery and torpedo dropping exercises on a continuing basis, within two areas of the Strait of Georgia, B.C. The two areas are shown on the accompanying chart and will be depicted on Aeronautical Charts and designated in publications as "Danger Areas". Because of the hazardous nature of the Military activity, all unauthorized aircraft are cautioned to remain clear of these areas and the overlying airspace indicated below:

Danger Area C1D10 will underly a portion of Victor Airway, V-317 and will be in continuous use from the surface up to 3500' ASL.

Danger Area C1D77 will underly a portion of Green Airway 1 and will be in continuous use from the surface up to 4000' ASL.

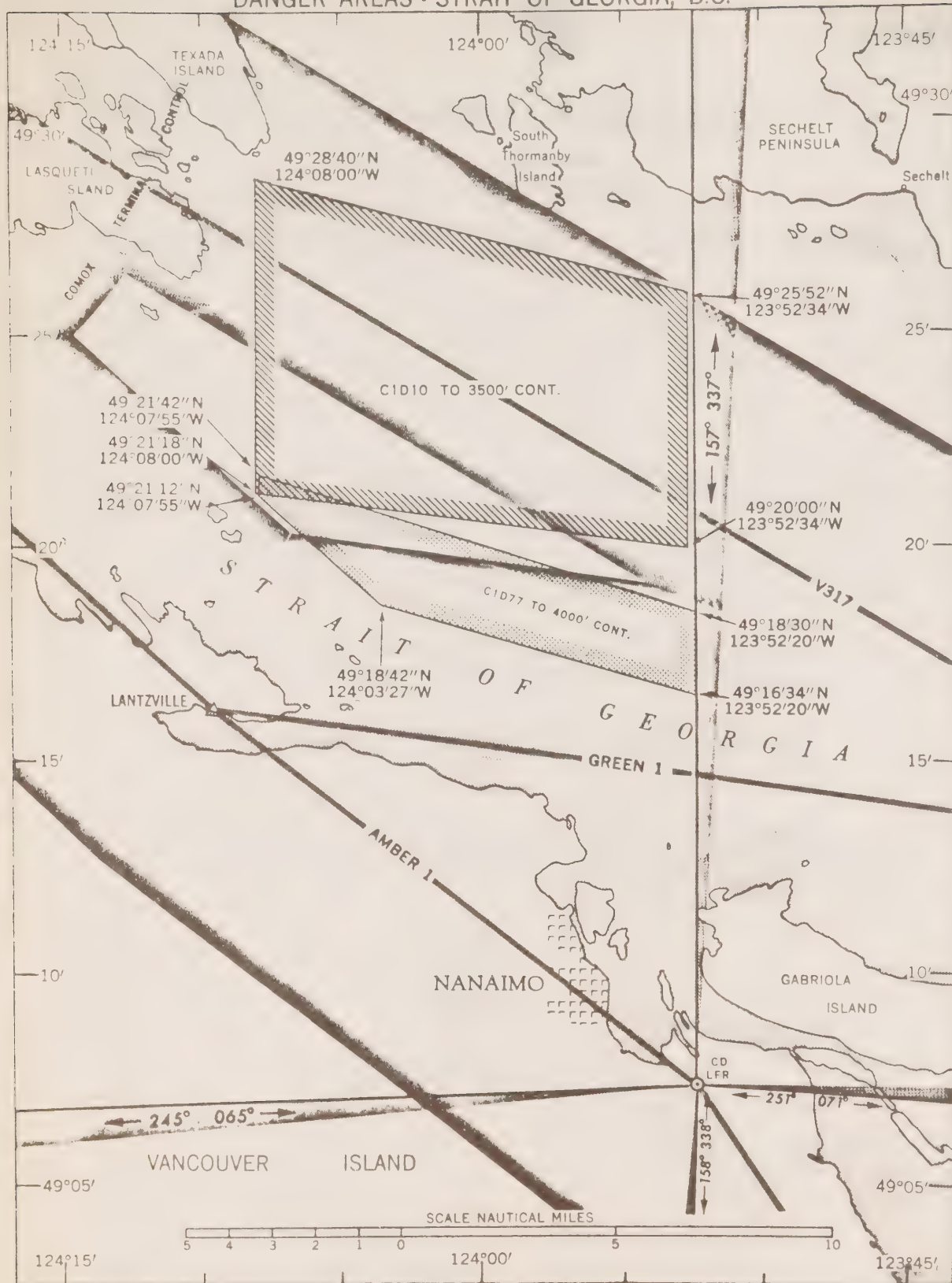
Pilots are further cautioned that on occasion the altitudes mentioned above will be exceeded. The periods during which this will occur and the altitude below which the airspace will be restricted, will be advertised by Class I NOTAM at least 24 hours in advance of such occasions.



R. W. Goodwin,
Director, Civil Aviation.

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DANGER AREAS - STRAIT OF GEORGIA, B.C.



NOTAM



Government of Canada
Hazards and Obstructions

15/67
13th July

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

HAZARDS TO AIR NAVIGATION (Supplementing NOTAM 18/66)

Drone Flights in the vicinity of Danger Area C4D18, Shilo, Man.

The Department of Defence Production will fly jet-powered drone aircraft missions in the vicinity of C4D18 during the period 15 Sept 1967 to 31 Dec 1967.

Since the flights cannot be confined to the existing bounds of C4D18 and because of the hazardous nature of this Military activity, all unauthorized aircraft are cautioned to remain clear of the airspace below 5500 feet ASL over the area bounded by a line commencing at 49° 51'N, 99° 43'W to 49° 51'N, 99° 11'W to 49° 33'N, 99° 05'W to 49° 33'N, 99° 43'W to the point of beginning, during the period 15 Sept to 31 Dec 1967. The area designated is depicted on the reverse side of this NOTAM.

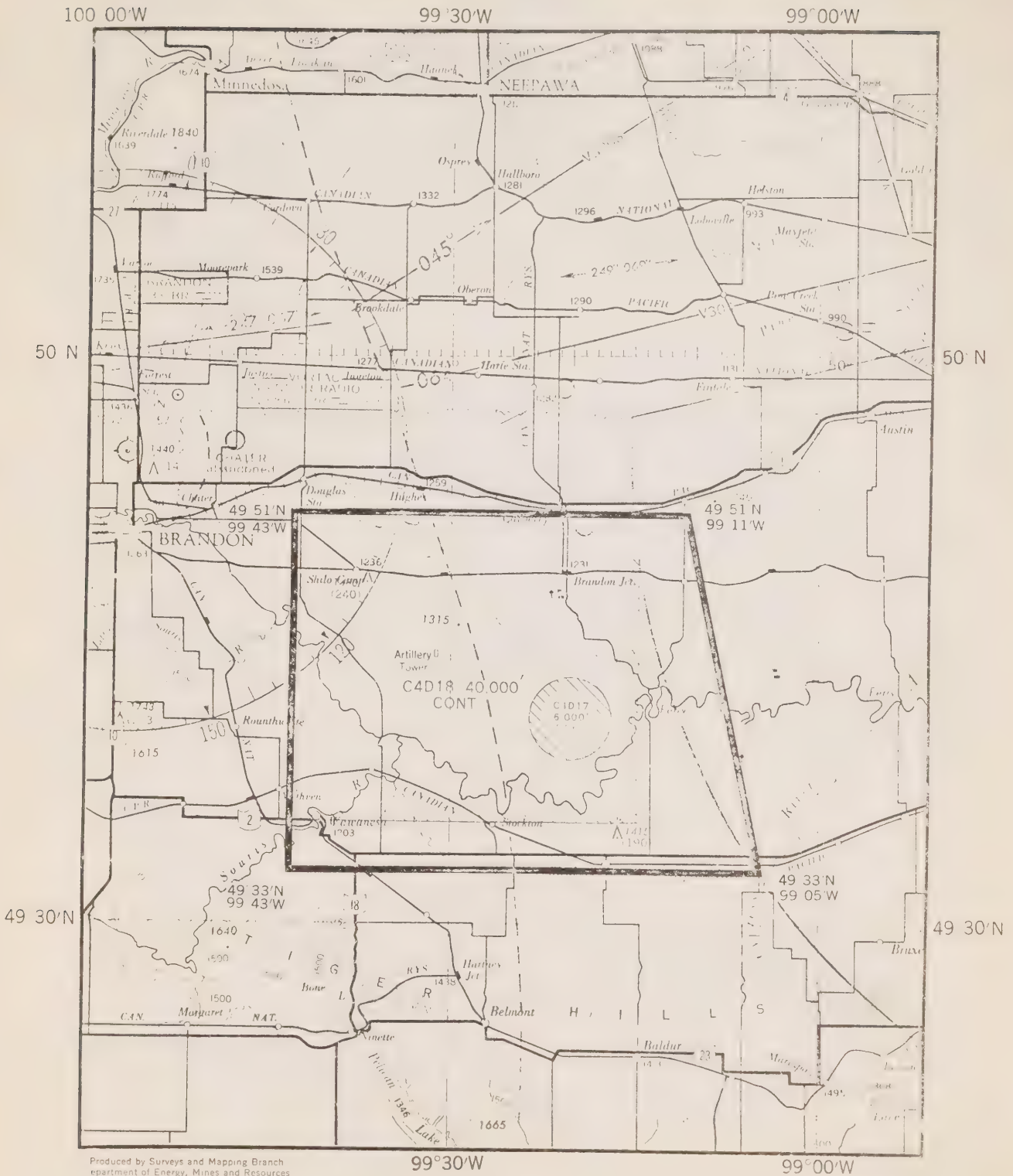
A Class I NOTAM will be issued at least 12 hours in advance of each flight.



R. W. Goodwin,
Director, Civil Aviation.

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RESTRICTED AIRSPACE
DRONE FLIGHTS - SHILO, MANITOBA



NOTAM



I AND AERODROMES

16/67
14th July

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

SPECIAL PROCEDURES - I AND AERODROMES (Amending and Supplementing NOTAM 21/66)

CONTENTS

Shearwater, N. S.	(Cancellation of Right Hand Circuits)
Abbotsford, B. C.	(Revised Circuit Procedures)
Comox, B. C.	(Addition of NOTE to Special Procedures)
Saskatoon, Sask.	(Revised Radio Requirement)
Winnipeg, Man.	(Revised Departure Height)
Red Deer, Alta.	(New Glider Operations)





SHEARWATER, N. S.

The item Right Hand Circuits under Shearwater, N. S. on page 20 of NOTAM 21/66 is cancelled. Delete all reference to right hand circuits from this section.

ABBOTSFORD, B. C.

The section under Abbotsford, B. C. on page 25 of NOTAM 21/66 is superseded by the following:

Right Hand Circuits

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 06 and 36.

Glider Operations

Gliders will use the grass area parallel to the runway in use. Glider circuits will be flown opposite to the direction of the circuits flown by powered aircraft.

COMOX, B. C.

To the item Special Procedures under Comox, B. C. on page 28 of NOTAM 21/66 the following note is to be added:

NOTE:

Comox terminal radar is frequently unreliable under conditions of precipitation. Pilots should be prepared to accept delays and complete their approach without radar assistance under these conditions.

SASKATOON, SASK.

The item Minimum Aircraft Radio Equipment under Saskatoon, Sask., on page 39 of NOTAM 21/66 is superseded by the following:

Minimum Aircraft Radio Equipment

Aircraft using the hard surface runways for taking-off and landing must be equipped with serviceable two-way radio.

NORDO and RONLY aircraft are to use the grass areas north of the runways for taking-off and landing.

WINNIPEG INT'L AIRPORT, MAN.

The sub-item Departure Procedures under Noise Abatement - Arrival and Departure Procedures on page 41 of NOTAM 21/66 is amended as follows:

In sub paragraph (a) (i) third line, the phrase
" at least 3000' above ground level" should read
" at least 2000' above ground level".

RED DEER, ALTA.

Glider Operations

"Red Deer Industrial Airport, Red Deer, Alta. is periodically the scene of extensive glider flying. Pilots of glider and tow-planes take-off and land on the right hand runway and make right hand circuits."

"Pilots of powered aircraft, other than tow-planes, are to land and take-off on the left hand runway and make left hand circuits. Pilots of visiting aircraft should call Penhold Radio for arrival information and should avoid the airspace immediately adjacent and to the right of the runways in use, below an altitude of 2,000 feet above the ground."



R. W. Goodwin,
Director, Civil Aviation.

NOTAM



17/67
1st July

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 1

NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st JULY, 1967

1964	1965		1966		1967
12/64	10/65	8/66 9/66 14/66	15/66 18/66 21/66	4/67 5/67 6/67 7/67	8/67 12/67 13/67

HAZARDS TO AIR NAVIGATION

18/66 Hazards to Air Navigation
6/67 (Amends 18/66)
7/67 Danger Areas - Strait of Georgia, B. C. (Supplements 18/66)

LAND AERODROMES

21/66 Special Procedures and Facilities
5/67 (Amends 21/66)
8/67 Expo 67 Special Procedures - Montreal, Que. (Supplements 21/66)
12/67 Restricted Airspace - Ottawa, Ont. (Supplements 21/66)

WATER AERODROMES

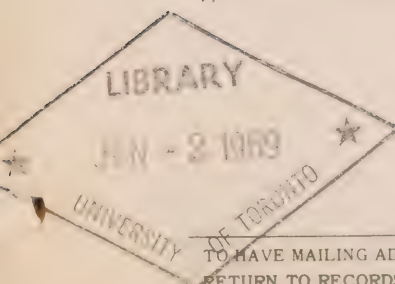
12/64 Special Procedures and Facilities
10/65 (Amends 12/64)
8/67 Expo 67 Special Procedures - Montreal, Que. (Supplements 12/64)
12/67 Restricted Airspace - Ottawa, Ont. (Supplements 12/64)

AIR TRAFFIC CONTROL PROCEDURES

8/66 Area Control Above FL 230
14/66 Standard Instrument Departures (SIDs)
15/66 Special VFR Procedures - Vancouver International Airport
4/67 Air Traffic Control Procedures
13/67 North Atlantic Navigational Data Collection Programme

CANADIAN AIRSPACE CHARACTERISTICS

9/66 Canadian Airspace Characteristics



R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



Aerodromes - Land

18/67
11th August

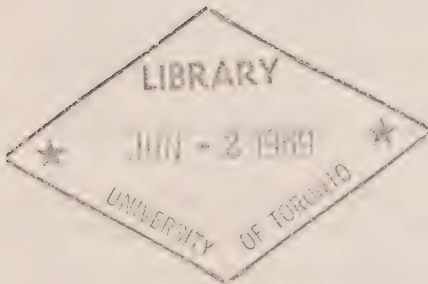
DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 1

RESTRICTED USE OF
DEPARTMENT OF NATIONAL DEFENCE AERODROME
PUNTZI MOUNTAIN, B.C.

The D. N. D. aerodrome at Puntzi Mountain, B.C. is restricted to use by Military aircraft only.



R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



Government
Aerodromes - Land

19/67
14th August

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 7

SPECIAL PROCEDURES AND FACILITIES LAND AERODROMES (Amending NOTAM 21/66)

CONTENTS

Montreal Int'l, Que. (Revised)
Toronto Int'l, Ont. (Revised)

MONTREAL INT'L AIRPORT, QUE.

The subsection Montreal Int'l Airport, Que., on pages 11, 12, 13 and 14 is superseded by the revised subsection below.

MONTREAL INT'L AIRPORT, QUE.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 06R, 06L and 10.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NOISE ABATEMENT — ARRIVAL AND DEPARTURE PROCEDURES

The use of Montreal International Airport by turbojet aircraft for technical stops or charter operations is not permitted between 23:00 and 07:00 hours local time.

The scheduling of regular flights using turbojet aircraft is not permitted at Montreal International Airport between midnight and 07:00 hours local time. Late arrivals may be delayed until 07:00 hours as departure will not be permitted by Airport Authority except in very unusual or extenuating circumstances.

The following portion of this NOTAM shall be applicable to all types of turbojet aircraft. It establishes specific minimum operating altitudes, and specific directions of flight to avoid, insofar as possible, the main residential areas surrounding the airport.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedures set forth below and illustrated on the accompanying charts should be followed unless otherwise instructed by Air Traffic Control:

Preferential Runways

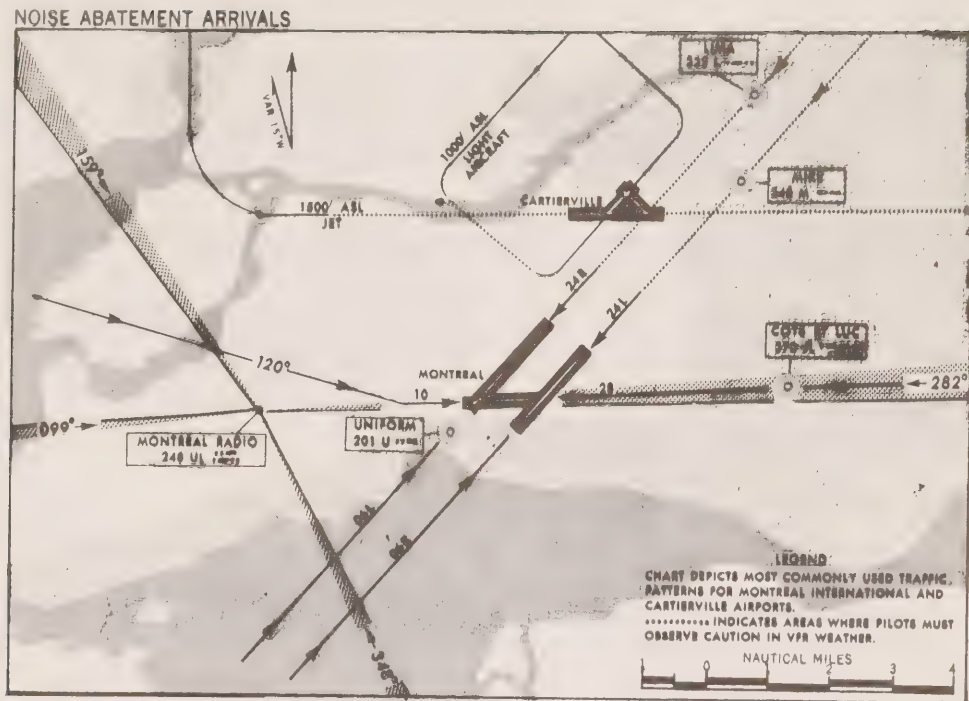
Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operation, from flight over residential areas adjacent to the airport. The Tower will assign runways in the following order of preference whenever practicable:

- (a) Take-offs: 06L, 06R, 28, 24R, 24L
- (b) Landings: 24L, 24R, 28, 06R, 06L
- (c) Maximum effective wind components for use in selecting the preferential runway:
 - (i) The maximum effective cross wind component for take-offs and landings should not exceed 15 knots.
 - (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
 - (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above, shall only be made at the discretion of the pilot.

Departure Procedures

- (a) (i) When weather conditions are not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways until reaching at least 2000' above ground level, i.e. the climb profile for each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement. The initial power reduction should be made prior to crossing residential areas as determined either visually or by time calculation.
- (ii) Departing aircraft required to make a turn after take-off may commence such turn as soon as a safe manoeuvring speed is attained which normally will be at an altitude of not less than 600' above airport elevation.
- (b) Runway 06L and 06R - aircraft will normally be given a straight climb-out on the runway heading until reaching 3000' ASL before proceeding on course.
- (c) Runway 24R and 24L - aircraft taking off on these runways will be given a straight climb-out on the runway heading until reaching at least 3000' ASL or reaching a position over the middle of Lake St. Louis, before proceeding on course.
- (d) Runway 28 - aircraft taking off on this runway will normally be given a right turn on to a heading of 300° Magnetic and should continue climbing until reaching at least 3000' ASL before proceeding on course.





Special Note - Approaches to Runways 24R and 24L.
Departures from Runways 6R and 6L.

Pilots using Montreal International Airport are cautioned to keep a sharp look-out when operating in the 24R and 24L flightways (06R and 06L take-off/climb areas) during visual flight conditions, for military jet and light and heavy civil aircraft, operating VFR to and from Cartierville Airport located 3 nautical miles northeast of Montreal International Airport.

MINIMUM AIRCRAFT RADIO EQUIPMENT - MONTREAL AIRPORT CONTROL ZONE

The intentional use of controlled airspace within a 10 mile radius of Montreal International Airport, (encompassing Montreal International Airport, Cartierville Airport and water operations on adjacent rivers), is restricted to aircraft equipped with a functioning radio transmitter and receiver which will permit two-way communication with the appropriate control tower.

Primary VHF frequencies for communication with control towers are:

	Air Control	Ground Control
Cartierville Tower	118.7	121.7
Montreal Tower	119.1	121.9

Seaplane operators using the rivers in this area are reminded of their responsibility to ascertain that VFR weather conditions prevail before take-off. This can be accomplished by communication with the nearest control tower.

TORONTO INTN'L AIRPORT, ONT.

The subsection Toronto Int'l Airport, Ont., on pages 20, 21 and 22 of NOTAM 21/66 is superseded by the revised subsection below.

TORONTO INTN'L AIRPORT, ONT.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control right hand circuits are in effect for runways 14, 23L, 23R, and 28.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NOISE ABATEMENT — ARRIVAL AND DEPARTURE PROCEDURES

The use of Toronto International Airport by turbojet aircraft for technical stops or charter operations is not permitted between 23:00 and 07:00 hours local time.

The introduction of new scheduled flights using turbojet aircraft between the hours of midnight and 07:00 hours local time is not permitted.

The following portion of this NOTAM shall be applicable to all types of turbojet aircraft. It establishes specific minimum operating altitudes, and specific directions of flight to avoid, insofar as possible, the main residential areas surrounding the airport.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedures set forth below and illustrated on the accompanying charts should be followed unless otherwise instructed by Air Traffic Control:

Preferential Runways

Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operations, from flight over residential areas adjacent to the airport. The tower will assign runways in the following order of preference whenever practicable:

(a) Take-Offs: 23L, 32, 14, 05R, 28

(b) Landings: 05R, 14, 32, 23L, 10

(c) Maximum effective wind components for use in selecting the preferential runway:

- (i) The maximum effective crosswind component for take-offs and landings should not exceed 15 knots.

- (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
- (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above, shall only be made at the discretion of the pilot.

Departure Procedures

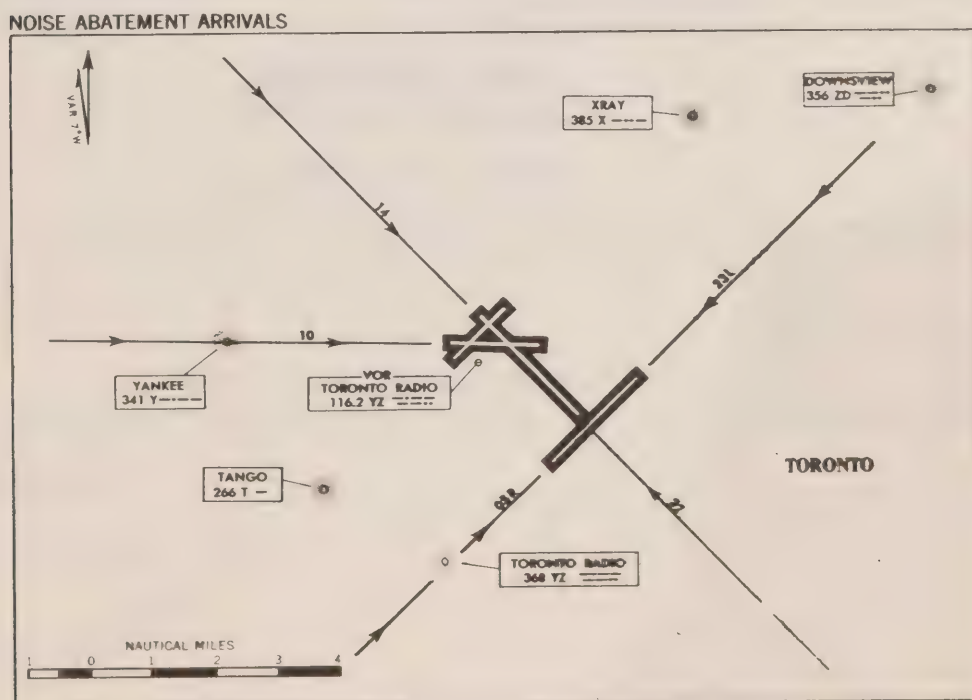
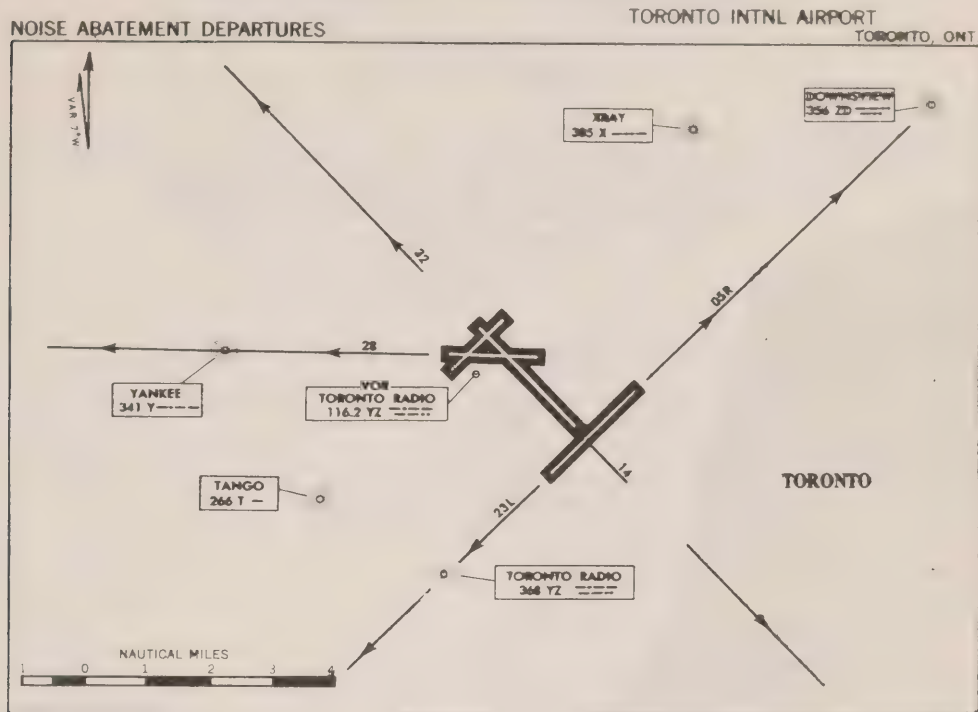
- (a) When weather is not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways until reaching at least 2000' above ground level, i.e. the climb profile for each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement. The initial power reduction should be made prior to reaching residential areas as determined either visually or by time calculation.
- (b) Departing aircraft shall make a straight climb-out on the runway heading until reaching at least 3000' ASL before proceeding on course.

Arrival Procedures

- (a) When weather conditions permit, the minimum circuit height shall be 2000' above airport elevation. Aircraft approaching for a landing shall maintain an initial approach altitude not below 2500' ASL and should hold this altitude as long as possible before commencing final descent to the runway. During final approach every effort should be made to remain on or slightly above the approach slope angle as provided by the ILS Glide Path, VASIS or PAR.
- (b) Turns onto final approach shall be completed not less than 6 nautical miles from the threshold of the runway to be used. For runway 32, this manoeuvre shall be completed over Lake Ontario before crossing the shoreline inbound.
- (c) The use of thrust and the selection of gear and flap settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement during the approach-to-land manoeuvre.
- (d) Airport circuit direction shall be as follows:

Runways 32, 10, 05R - Left Hand

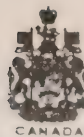
Runways 14, 23L, 23R, 28 - Right Hand



Ringwood

R. W. Goodwin,
Director, Civil Aviation.

NOTAM



22/67
22nd September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 6

HAZARDS TO AIR NAVIGATION

(Amending and Supplementing NOTAM 18/66)

CONTENTS

Air Refuelling Areas	(Published on Charts)
Sage Evaluation Flights	(Cancelled)
Grand Lake, Newfoundland	(Additional Hazard)
Tufts Cove, N. S.	(Additional Hazard)
Trois Rivières, Que.	(Revised Obstruction)
Manitouwadge, Ont.	(Additional Obstruction)
Sarnia, Ont.	(Additional Obstruction)
Sudbury, Ont.	(Additional Obstruction)
Hearst, Ont.	(Revised Obstruction)
Sudbury, Ont.	(Revised Hazard)
Timagami, Ont.	(Additional Hazard)
Stroud, Ont.	(Additional Parachuting Area)
Clandeboyne, Man.	(Additional Parachuting Area)
Marquis, Sask.	(Revised Obstruction)
Drumheller, Alta.	(Revised Obstruction)
Calgary, Alta.	(Additional Obstruction)
Abbotsford, B. C.	(Revised Parachuting Area)

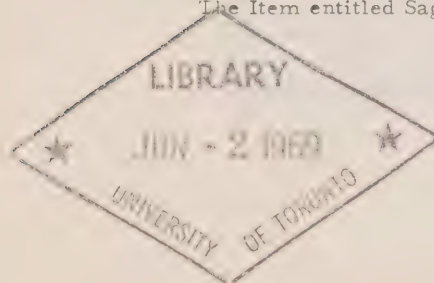
**SECTION ONE
GENERAL HAZARDS**

AIR REFUELLING AREAS

The Item entitled Air Refuelling Areas on page 3 of NOTAM 18/66 is to be deleted. All current Air Refuelling Areas are depicted on Radio Navigation Charts - ICAO, Enroute High Altitude series.

SAGE EVALUATION FLIGHTS

The Item entitled Sage Evaluation Flights on page 4 of NOTAM 18/66 is to be deleted.



SECTION TWO

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS NEWFOUNDLAND

HAZARD PENDING PUBLICATION ON CHARTS

GRAND LAKE, NEWFOUNDLAND—POWER LINE CROSSING

Pilots operating in the vicinity of Grand Lake, Newfoundland, are cautioned to avoid power transmission lines crossing Grand Lake at the north-eastern portion of Glover Island.

The approximate locations and heights of the supporting towers as shown on the sketch below, are as follows:

- A - East shore - Grand Lake: 48°52'N, 57°31'W, 550 feet ASL.
- B - East shore - Glover Island: 48°52'N, 57°32'W, 550 feet ASL.
- C - West shore - Glover Island: 48°52'N, 57°36'W, 1175 feet ASL.
- D - West shore - Grand Lake: 48°53'N, 57°37'W, 1047 feet ASL.

The supporting towers have been obstruction painted, the bases cleared and shore markers installed for added conspicuity.

The maximum sag of the powerlines over water on both sides of the island is 75 feet over high water level which is 305 feet ASL.



NOVA SCOTIA

Notam 22/67

Page 3 of 6

HAZARD PENDING PUBLICATION ON CHARTS

TRANSMISSION LINE — TUFTS COVE TO LOWER SACKVILLE

Pilots flying in this area are cautioned that steel towers carrying three aluminum conductor cables and two steel overhead ground wires have been constructed between Tufts Cove and Lower Sackville.

The heights of the structures vary from 104 feet to 124 feet above ground level.

QUEBEC

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

TROIS RIVIERES, QUEBEC

This sub-item on page 11 of NOTAM 18/66 is to be deleted. It is superseded by the following:

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Trois Rivieres, Que.	CKTM TV	46°29'	72°39'	1085'	1660'

ONTARIO

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Manitouwadge, Ont.	TV Tower	49°08'21"	85°49'23"	589'	2019'
Sarnia, Ont.	Chimney	42°47'48"	82°28'06"	550'	1135'
Sudbury, Ont.	CKSO TV Tower	46°30'02"	81°01'16"	993'	2024'
Hearst, Ontario.					

This sub-item on page 14 of NOTAM 18/66 is to be deleted. It is superseded by the following:

Hearst, Ont.	TV Tower	49°39'	83°31'	544'	1394'
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HAZARD TO AIRCRAFT OPERATIONS — SUDBURY, ONTARIO

The Item on page 15 of NOTAM 18/66 is to be deleted. It is superseded by the following:

HAZARD TO AIRCRAFT OPERATIONS — SUDBURY, ONTARIO

Open-mine blasting is conducted daily at 46°51' North Latitude, 81°02' West Longitude approximately 19 statute miles northwest of Sudbury Airport, as shown in the following sketch.

In the interest of safety, pilots operating in accordance with the Visual Flight Rules should exercise caution against overflying this location below 4000 feet ASL (3000 feet above terrain) within a three mile radius.

Pilots operating in accordance with the Instrument Flight Rules on Blue Airway 10 between the Sudbury NDB and the Welcome Intersection and on Victor Airway 5 between the Sudbury VOR and the area in the vicinity of Welcome Intersection will not receive ATC clearance to fly below 4000 feet ASL while blasting is in progress



Produced by Surveys and Mapping Branch,
Department of Energy, Mines and Resources.

HAZARD PENDING PUBLICATION ON CHARTS

TIMAGAMI, ONTARIO — BLASTING OPERATIONS

Blasting operations are conducted on a continuous unscheduled basis at 47°04'N, 75°50'W, approximately 3 statute miles west of Timagami, Ontario. In the interest of safety, pilots are cautioned against flying over this area at less than 1500 feet above ground.

PARACHUTE JUMPING AREA — ONTARIO

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

STROUD, ONTARIO

From time to time at 44°21'N, 79°39'W, approximately 2 miles northeast of Stroud, Ont., descents are made from altitudes not exceeding 7500 feet ASL during daylight hours. When parachute jumping is in progress a large cross or X will be displayed on the field.

MANITOBA

PARACHUTE JUMPING AREA — MANITOBA

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in the area at altitudes where parachutists might be encountered.

CLANDEBOYE, MANITOBA

From time to time in the vicinity of Clandeboye, Man., within a circle of two mile radius centred at 50°14'N, 96°55'W, descents are made from altitudes not exceeding 9500 feet ASL during daylight hours.

SASKATCHEWAN

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

MARQUIS, SASKATCHEWAN

This sub-item on page 18 of NOTAM 18/66 is to be deleted. It is superseded by the following:

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Marquis, Sask.	CKCK TV3 Tower	50°39'	105°46'	810'	2785'

ALBERTA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

DRUMHELLER, ALBERTA

This sub-item on page 18 of NOTAM 18/66 is to be deleted. It is superseded by the following:

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.,	LONG. W.		
Drumheller, Alta.	CFCN TV1 Tower	51°34'	112°20'	579'	4079'

HAZARD PENDING PUBLICATION ON CHARTS

CALGARY, ALBERTA

A tall building is being erected at 51°02'41"N, 114°03'45"W, approximately 5 NM southwest of Calgary Airport. It will rise 600 feet above ground level, 4038 feet above sea level. The building is obstruction lighted.

BRITISH COLUMBIA

PARACHUTE JUMPING AREA - BRITISH COLUMBIA

ABBOTSFORD, BRITISH COLUMBIA

This sub-item on page 23 of NOTAM 18/66 is to be deleted. It is superseded by the following:

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

ABBOTSFORD, BRITISH COLUMBIA

Daily from 1600 GMT until dark, descents may be made from 12,500 feet ASL. The jump area is located approximately $5\frac{1}{2}$ miles north of the Abbotsford Airport at 49°06'N, 122°20'W and is marked by a large orange cross.

When parachute jumps are made from above 5000 feet ASL within the Abbotsford Jump Area, the following procedures will apply:

1. Parachute jumps shall be made from aircraft which are equipped with a serviceable coded transponder.
2. The aircraft shall maintain continuous communication with the Vancouver Centre on 119.7 MHz.
3. A VFR flight plan shall be filed at least 30 minutes prior to take-off. The remarks portion of the flight plan shall contain complete details of the exercise including proposed times of the jumps.
4. The Vancouver Centre will advise the pilot when jumping may commence. After a visual check that the area is clear of VFR traffic, the pilot may then permit the parachutists to jump.
5. The aircraft shall remain over the jump area until the parachutists have landed.



R. W. Goodwin,
Director, Civil Aviation.

23/67
12th October

NOTAM



DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 5

Special Procedures - Land Aerodromes
(Amending and Supplementing NOTAM 21/66)

CONTENTS

Calgary, Alta.	(Revised Special Procedures)
Kamloops, B. C.	(Revised Special Procedures)
Langley, B. C.	(Addition of Right Hand Circuits)
Rivers, Man.	(Addition of Special Procedures)

CALGARY, ALTA.

The item Calgary Municipal Airport, Alta., on pages 25 and 26 of NOTAM 21/66 is to be deleted. It is superseded by the following:

CALGARY, ALTA.

RIGHT HAND CIRCUITS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 25, 34 and the associated grass areas.

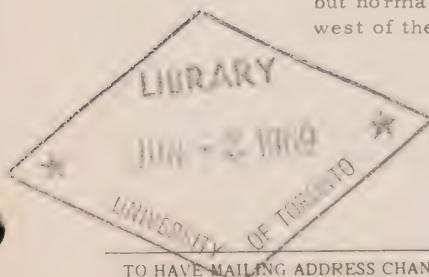
MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with serviceable two-way radio.

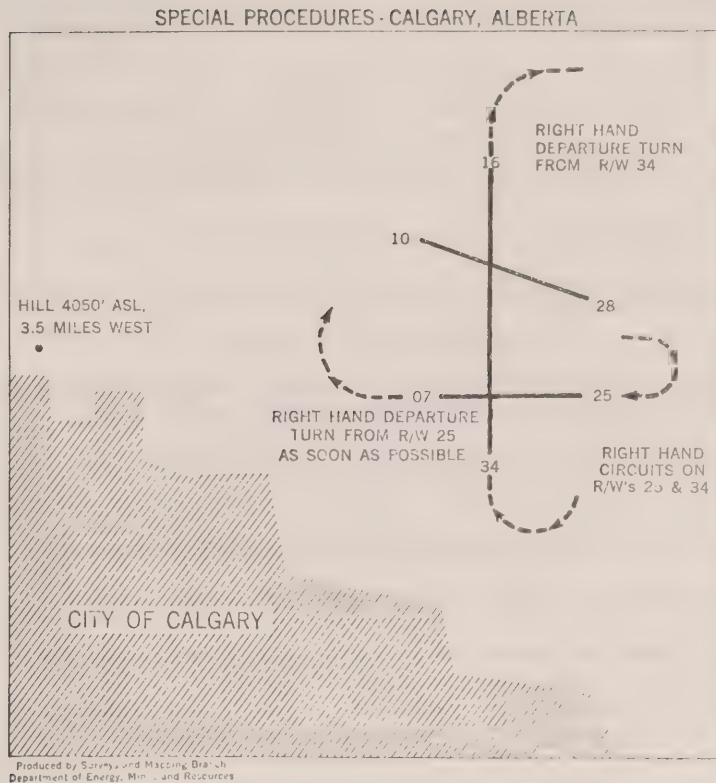
SPECIAL PROCEDURES

The procedures set forth below are to be followed unless otherwise directed by Air Traffic Control:

- a) Provided the ceiling is 1500 feet or more above ground the minimum circuit height for all aircraft shall be 4550 feet ASL.
- b) Except while taking off or landing, aircraft shall refrain from flying over populated areas of the city at an altitude of less than 4550' ASL.
- c) Aircraft departing on runway 25 should begin a right turn as soon as possible, but normally not below 600 feet AGL, in order to avoid built-up areas to the west of the Airport.



(See accompanying sketch)



KAMLOOPS, B.C.

The item Kamloops, B. C. on page 33 of NOTAM 21/66 is to be deleted. It is superseded by the following:

KAMLOOPS, B.C.

RIGHT HAND CIRCUITS

For daytime operations right hand circuits are in effect for runways 04, 22 and 26.

RADIO PROCEDURES

All aircraft operating within a 5 mile radius of the airport should contact and monitor Kamloops Aeradio on 122.2 kHz.

SPECIAL PROCEDURES

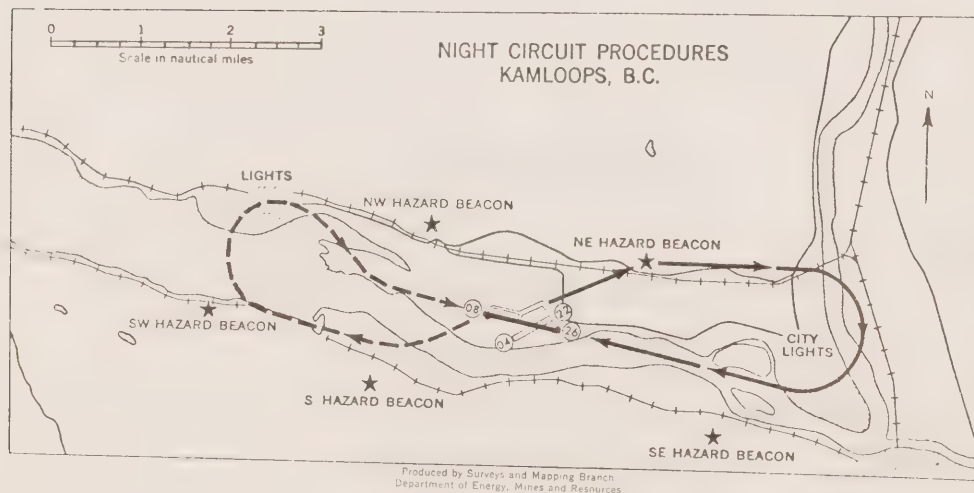
Due to extensive landplane, seaplane and helicopter traffic, in the interest of flight safety strict adherence to the procedures outlined below is recommended.

DAY

- a) Seaplane arrivals are to conform to the land airport traffic pattern.
- b) Seaplane departures are not to climb or turn North until well clear of the land airport circuit.

NIGHT

- a) Only pilots familiar with the local terrain should use this airport during the hours of darkness.
- b) Night operations are not authorized unless all 5 hazard beacons are operating and unless all 5 beacons are visible to pilots in the circuit.
- c) Circuit procedures outlined below and as depicted in the accompanying sketch are to be followed:
 - i) Runway 08 - Aircraft are to follow the solid line then the broken line.
 - ii) Runway 26 - Aircraft are to follow the broken line then the solid line.
 - iii) Turns should not exceed rate one and must be completed within the perimeter of the lights at an altitude not below 2130' ASL.



LANGLEY, B.C.

RIGHT HAND CIRCUITS

Unless otherwise authorized, right hand circuits are in effect for runway 25.

RIVERS, MAN.

RIGHT HAND CIRCUITS

Unless otherwise authorized, right hand circuits are in effect for runways 09, 13 and 20.

MINIMUM AIRCRAFT RADIO EQUIPMENT

Aircraft taking off or landing must be equipped with a serviceable two-way radio.

SPECIAL PROCEDURES

Extensive day and night military air operations are conducted within five (5) statute miles of the Rivers Aerodrome. In addition extensive helicopter operations are carried out, from ground level to 3000' AGL, within twenty (20) statute miles of the Rivers Aerodrome, excluding all populated areas and the Brandon Control Zone. It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with Visual Flight Rules within these areas unless:

- a) The aircraft is equipped with a serviceable two-way radio;
- b) Flight Advisory information has been received from Rivers Control Tower; and
- c) A listening watch is maintained on a frequency assigned by the Rivers Control Tower.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military aerodrome at Rivers.

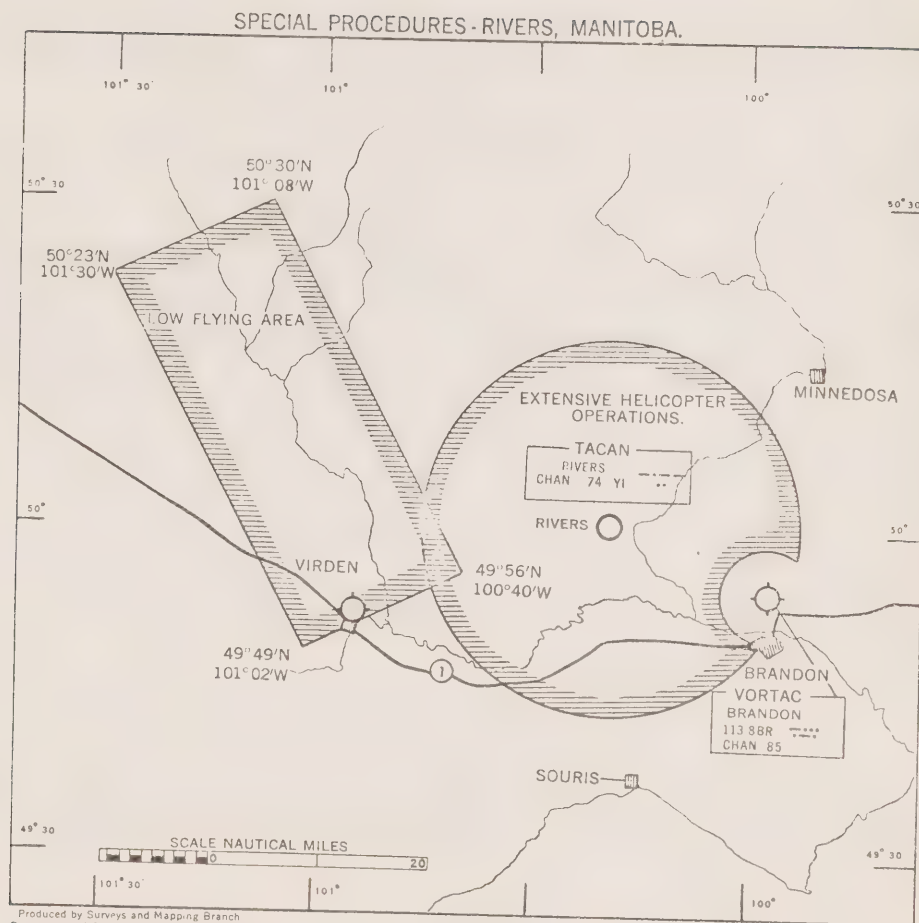
Primary communications frequencies are - 121.5, 126.2, 243.0, 236.6 MHz.

RIVERS LOW FLYING AREA

Extensive low level reconnaissance and photo sorties are conducted, by jet aircraft below Airways at a minimum of 50' above the highest object known, within the area contained within the following co-ordinates and boundaries, excluding the Town of Virden and the Virden Aerodrome:

49°49'N	101°02'W to
50°23'N	101°30'W to
50°30'N	101°08'W to
49°56'N	100°40'W to point of beginning

The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Rivers Control Tower for Flight Advisory Service.



R. W. Goodwin

R. W. Goodwin,
Director, Civil Aviation.

NOTAM



24/67
20th October

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 13

SPECIAL PROCEDURES AND FACILITIES
WATER AERODROMES

(SUPERSEDING NOTAMS 12/64 AND 10/65)

CONTENTS

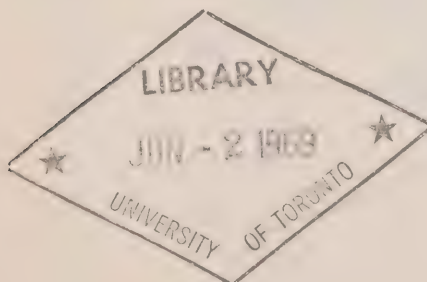
(PENDING PUBLICATION IN THE CANADA AIR PILOT WATER AERODROME SUPPLEMENT)

SECTION 1 - WINNIPEG TO ATLANTIC OCEAN

	PAGE		PAGE
Dangerous Alighting Areas - Public Canals, Basins and Harbours	2	Montreal, Que.	5
		Moosonee, Ont.	5
Frobisher, N. W. T. (Lake Geraldine)	2	St. Pierre (French)	6
Fredericton, N. B.	3	Ste. Agathe-Des-Monts, Que.	7
Halifax, N. S.	4	St. Jovite, Que.	8

SECTION 11 - WINNIPEG TO PACIFIC OCEAN

	PAGE		PAGE
Kamloops, B. C.	9	Victoria, B. C.	12
Vancouver, B. C.	10	Wells Gray Park, B. C.	13
Vancouver District Watersheds, B. C.	11		



SECTION 1**WINNIPEG TO ATLANTIC OCEAN****DANGEROUS ALIGHTING AREAS - PUBLIC CANALS, BASINS AND HARBOURS**

The operation of seaplanes in canal waters, including basins, harbours, or other water areas under the control of the Canals Division of this Department, but not including those hereunder noted, is not permitted, except as may be necessary owing to stress of weather or other emergency, the existence of which must be proven by the seaplane operator.

TRENT CANAL

Percy Reach
Rice Lake
Stony Lake
Deer Bay
Buckhorn Lake
Chemong Lake
Pigeon Lake
Sturgeon Lake

Lake Scugog
Cameron Lake
Balsam Lake
Simcoe Lake
Couchiching
Sparrow Lake
Gloucester Pool

RIDEAU CANAL

Rideau Lake
Upper Rideau Lake
Newboro Lake
Opinicon Lake
Sand Lake
Christie Lake
Bobs Lake
Wolfe Lake

WELLAND CANAL

Martindale Pond

Water areas as above described, other than those excepted, are considered by this Branch to be too restricted and congested for normal use by aircraft and all concerned must be governed accordingly.

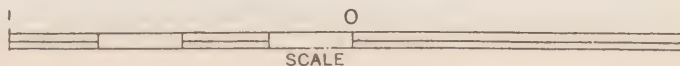
**SEAPLANE OPERATING RESTRICTIONS -
LAKE GERALDINE, FROBISHER BAY, N.W.T.**

Lake Geraldine at Frobisher Bay, N. W. T. which is shown in the following sketch is not to be used for seaplane operations.

Water from this lake is used by local inhabitants for drinking purposes and as there is no filtering system seaplanes using the lake could cause contamination.



Miles



SKI AND SEAPLANE OPERATING RESTRICTIONS - SAINT JOHN RIVER FREDERICTON, NEW BRUNSWICK

The hatchured area shown in the accompanying sketch is not to be used for take-offs or landings.

Pilots taxiing in this area must use extreme caution and should not attain a greater speed than is necessary to maintain steerage way.

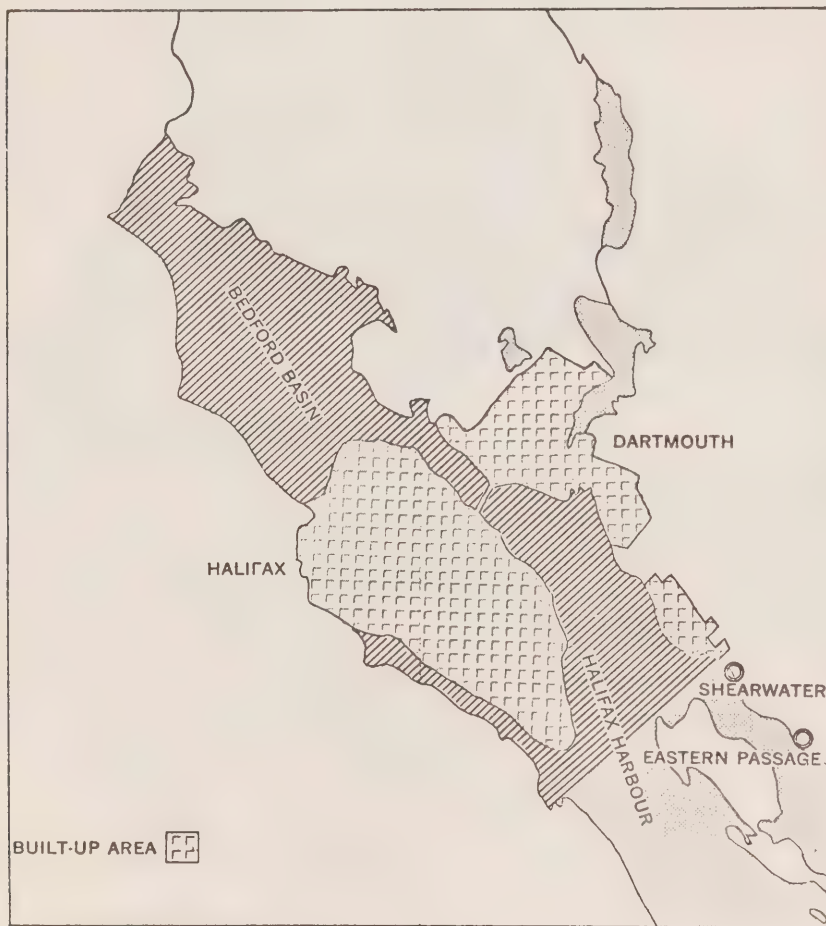


Produced by Surveys and Mapping Branch,
Department of Energy, Mines and Resources.

SEAPLANE OPERATING RESTRICTIONS - HALIFAX HARBOUR, NOVA SCOTIA

The dark area, shown on the sketch of the Halifax Harbour, is not to be used for seaplane operations except in an emergency or with prior authorization.

As the Halifax Harbour is under the jurisdiction of the National Harbours Board any request for prior authorization to operate a seaplane within the dark area should be directed to the Port Manager, Halifax, Nova Scotia.



Produced by Surveys and Mapping Branch,
Department of Energy, Mines and Resources.

MONTREAL, QUE.

MINIMUM AIRCRAFT RADIO EQUIPMENT

The intentional use of controlled airspace within a 10 mile radius of Montreal International Airport, encompassing water operations on adjacent rivers, is restricted to aircraft equipped with a functioning radio transmitter and receiver which will permit two-way communication with the appropriate control tower.

Primary VHF frequencies for communication with control towers are:

	Air Control	Ground Control
Cartierville Tower	118.7	121.7
Montreal Tower	119.1	121.9

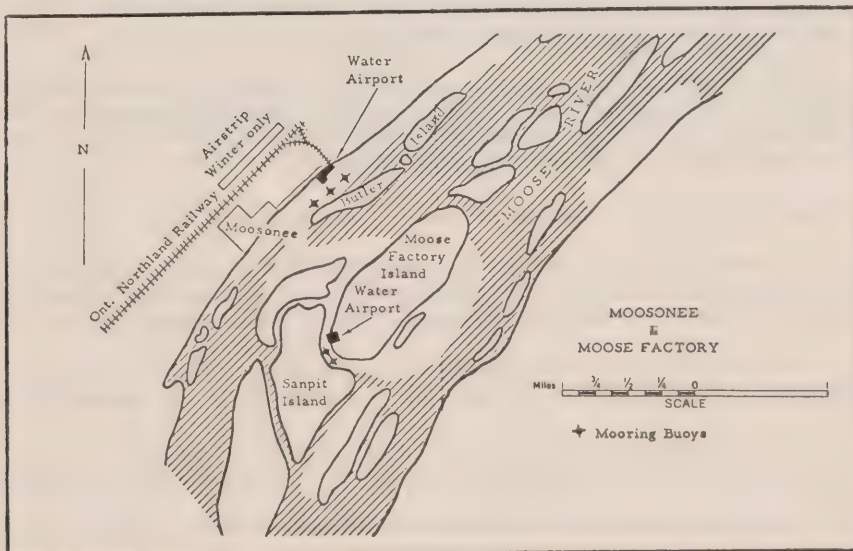
Additionally, seaplane operators using the rivers in this area are reminded of their responsibility to ascertain that VFR weather conditions prevail before take-off. This can be accomplished by communication with the nearest control tower.

DANGEROUS ALIGHTING AREAS - MOOSONEE AND MOOSE FACTORY, ONTARIO

All pilots using the water airports at Moosonee and Moose Factory, Ontario, are hereby warned that sand bars and shallow areas in the Moose River exist at periods of a low tide which are considered hazardous to seaplanes and amphibious aircraft.

The hatchured areas indicated in the sketch below should not be used for take-offs and landings.

Minimum depth in the usable water areas is five feet at low tide, and the normal current speed on an outgoing tide is six knots.



SEAPLANE OPERATION - ST. PIERRE HARBOUR, (FRENCH)

Latitude 46° 46'N. Longitude 56° 10' W.

Order No. 780 passed on December 15, 1947 by the Administrator of the Territory of St. Pierre and Miquelon Islands follows:-

Article 1. - Seaplanes arriving at the port of St. Pierre shall make fast to one of the buoys moored in the Barachois; the Port Officer (or his delegate) will, if necessary, put off in a boat to meet the aircraft immediately upon its alighting in order to show it to its anchoring berth.

"Seaplanes equipped with mooring gear may, if weather is favourable, moor in the Anse à Rodrigue; the Port Officer will judge from meteorological forecasts and in agreement with the aircraft authorities whether the ship should take shelter in the Barachois."

"Drawing alongside of a quay, dock or slope without express approval by the Port Officer is formally forbidden; the same applies to drawing the aircraft high and dry in any part of the harbour or its related facilities."

"Any aircraft riding at anchor or moored at a buoy shall, from sunset to sunrise, display the lights stipulated for such case in the International Regulations on Aerial Navigation, namely;"

"(Official translation quoted, modified as in French text)"

"(a) In every case forward centrally where it can best be seen, a white light visible all round the horizon at a distance of at least one sea-mile;"

"(b) If the aircraft is 45.72 metres or upwards in length, a white light at or near its stern, at a lower height than the forward light specified in sub-paragraph (a) above, and visible all round the horizon at a distance of at least one sea-mile;"

"(c) If the maximum lateral dimensions of the aircraft is 45.72 metres or more, in addition to any other lights required by this paragraph, a white light on each side, placed in such a manner as to demarcate the maximum lateral dimension, and visible, so far as practicable all round the horizon, at a distance of at least one sea-mile."

"Article 2. - The Port authorities shall be informed, by telegram or radio-telegram and as long in advance as possible, of the probable time of arrival of each aircraft; telegrams of arrival should be addressed to "Port Officer, St. Pierre" and should be telephoned to the Port Office immediately upon receipt, by the Telegraph Office or the Wireless Service."

"The Port Service shall be advised of the time of departure as soon as it is set."

"Article 3. - Transportation to and from the aircraft, particularly the landing and reembarking of the crew and passengers and, eventually, the taking in of fuel, will be effected under the care of the Port Service. Details of operations will be arranged between the Port Officer and the aircraft authorities."

"Article 4. - Drawing alongside of an aircraft or approaching it within a radius of 50 metres without authorization by the ship's senior officer or the Port Officer (or his delegate) is formally forbidden."

"Article 5. - The Port Service shall advise Customs and Police authorities of the arrivals and departures of aircraft and shall, when necessary, make boats available to the said authorities."

"Article 6. - The Port Service, duly informed of aircraft arrivals and departures, shall make all necessary arrangements in order to prevent congestion on the water-level at the time of alighting or taking-off of aircraft."

"Article 7. - As long as an aircraft is in manoeuvres, the Port Service shall keep a motor boat in readiness for any contingency, particularly should the aircraft find itself in difficulties and require assistance."

"Article 8. - The Chief of the Public Works Service and the Port Officer are charged with the application of this Order, which shall be registered, made known wheresoever need be and published in the Journal Officiel of the Territory."

SEAPLANE OPERATIONS - STE. AGATHE-DES MONTS, QUE.

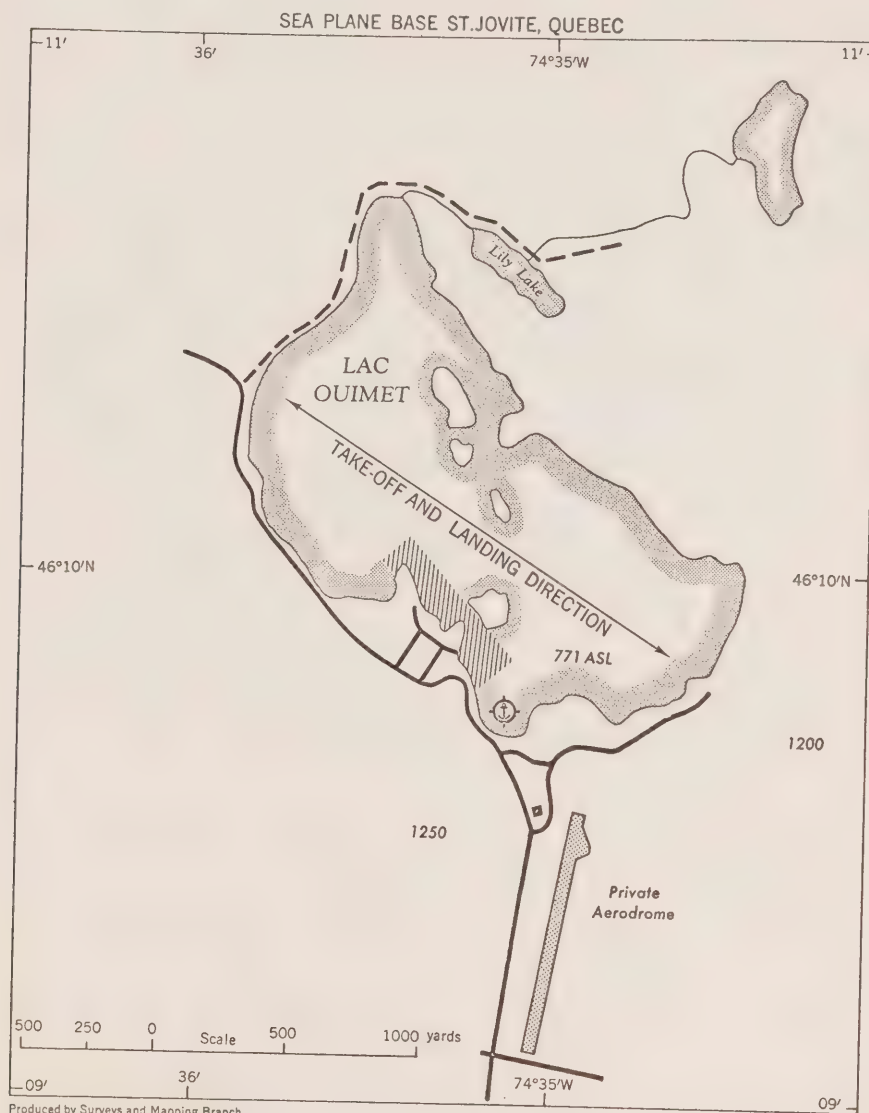
To avoid take-offs and landings over the populated area and to reduce the collision hazard with surface craft, pilots using Lac des Sables (46°02' North Latitude, 74°18' West Longitude) are requested to use only the Southeast portion of the lake for take-offs and landings and the Southeast bay for mooring as indicated on the adjoining sketch.



SEAPLANE OPERATING RESTRICTIONS - ST. JOVITE, QUE.

The hatchured area shown in the accompanying sketch is not to be used for take-offs or landings.

Pilots taxiing seaplanes in this area must use extreme caution and should not attain a greater speed than is necessary to maintain steerage way.



SECTION 2

WINNIPEG TO PACIFIC OCEAN

KAMLOOPS, BRITISH COLUMBIA

RIGHT HAND CIRCUITS

For daytime operations right hand circuits are in effect for runways 04, 22 and 26.

RADIO PROCEDURES

All aircraft operating within a 5 mile radius of the airport should contact and monitor Kamloops Aeradio on 122.2 MHz.

SPECIAL PROCEDURES

Due to extensive landplane, seaplane and helicopter traffic, the procedures outlined below are to be followed.

- (a) Seaplane arrivals are to conform to the land airport traffic pattern.
- (b) Seaplane departures are not to climb or turn North until well clear of the land airport circuit.

OPERATION OF SEAPLANES IN VANCOUVER HARBOUR, BRITISH COLUMBIA

The National Harbours Board has agreed to permit the operation of seaplanes within the Vancouver Harbour proper (the area lying between the First and Second Narrows bridges), with the following restrictions:

- (1) No seaplane will land, take-off or taxi on the step:
 - (a) within 300 feet of any shoreline, wharf, fixed object or vessel,
 - (b) within Coal Harbour or the First Narrows, i.e. west of a line drawn from the Immigration Wharf to Burnaby Shoal, then extended true north to intersect the North Shore. (see chart)
- (2) Aircraft are prohibited from flying under the Lions Gate (First Narrows) Bridge.
- (3) Pilots using the harbour proper must possess a Private Pilot or higher type of Pilot Licence.
- (4) Flying training operations are not permitted in this part of the harbour.

Permits to operate in the harbour are not required, but information regarding the volume of seaplane traffic would be of great benefit to both the National Harbours Board and the Department of Transport in giving consideration to any further relaxation of restrictions. All operators should, therefore, keep records of the number of times they use the harbour and advise the Regional Director, Air Services, Vancouver, on December 1st of each year.

No restrictions other than the 300 foot clearance from fixed objects or vessels will apply east of the Second Narrows Bridge or west of the First Narrows Bridge.



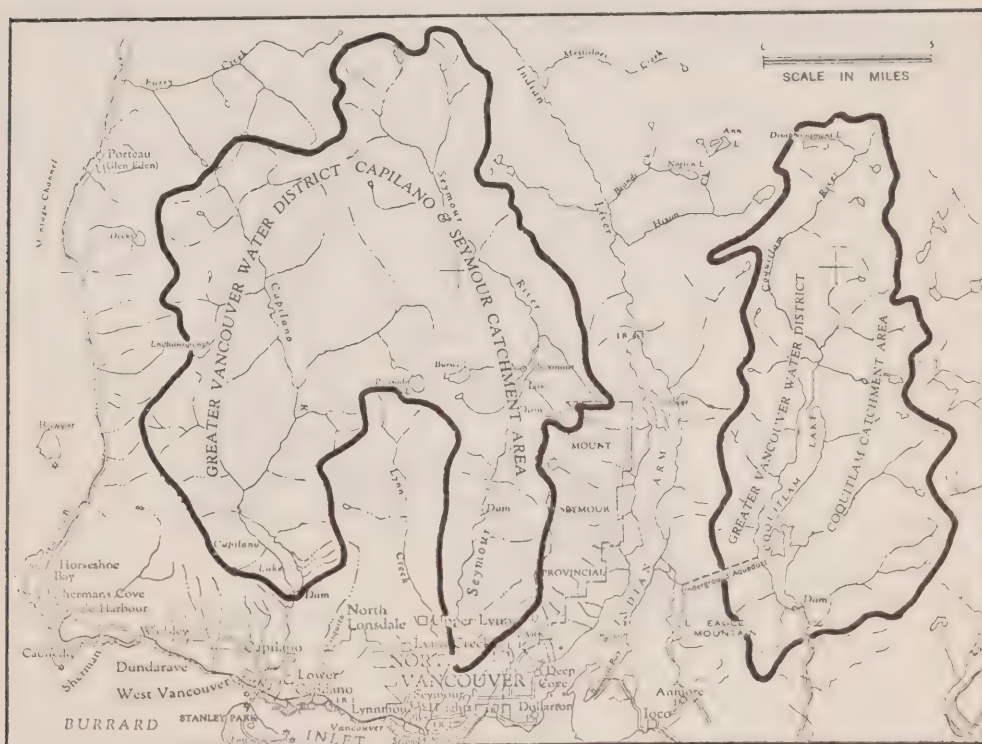
SEAPLANE OPERATING RESTRICTIONS -

VANCOUVER DISTRICT WATERSHEDS

The Greater Vancouver District Watersheds outlined in the following sketch are closed to the public, and no person is allowed to enter them, without first being cleared by the Health Authorities as being free of communicable diseases.

To this end, special guards are maintained at all entrances to these watersheds, and where practicable, the boundaries are fenced and posted with signs proclaiming the closure.

Consequently, no flight should be planned to land in the areas outlined on the sketch, without being cleared by the Health Authorities as noted above.



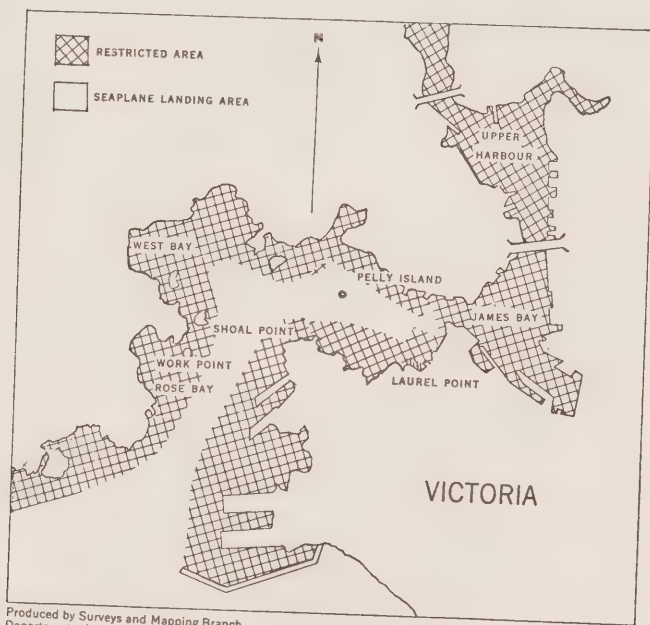
SEAPLANE OPERATIONS - VICTORIA HARBOUR, BRITISH COLUMBIA

In the past, seaplane operations in Victoria Harbour have been restricted to the area west of a line joining Shoal Point and Pelly Island. In order to improve take-offs to the west and/or to avoid rough water take-offs to the southwest, these restrictions have been eased.

In future, seaplane operations will be permitted in the waters west of Laurel Point subject to the following conditions:

- (a) No seaplane shall land, take-off or taxi on the step within 300 feet of the shoreline or any shore installation, floating works, works under construction, or any vessel, tow, boom of logs or raft.
- (b) When vessels or tows are in transit in the channel lying between Laurel Point and Shoal Point seaplanes will restrict their operation in this area to taxiing slowly or holding until the channel is clear.

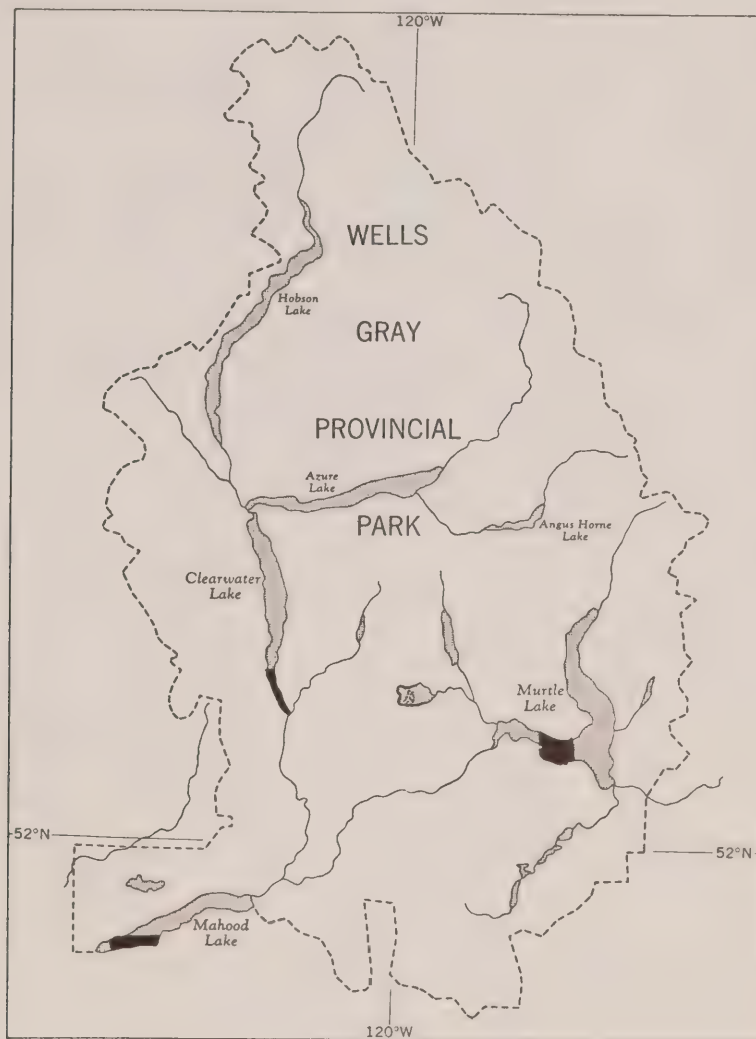
Seaplane operators are cautioned that failure on their part to comply with the foregoing may result in the reinstatement of the restrictions previously in force.



Produced by Surveys and Mapping Branch,
Department of Energy, Mines and Resources.

LANDING AREAS - WELLS GRAY PARK, BRITISH COLUMBIA

The Provincial Government of British Columbia, Department of Recreation and Conservation, Provincial Parks Branch, advises that the landing of aircraft in the Wells Gray Park area is prohibited except at locations on Clear Water Lake, Murtle Lake and Mahood Lake as indicated on the sketch unless permission in writing is obtained from the Deputy Minister, Department of Recreation and Conservation, Parliament Buildings, Victoria, B. C.



R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Airspace Characteristics

25/67
7th November

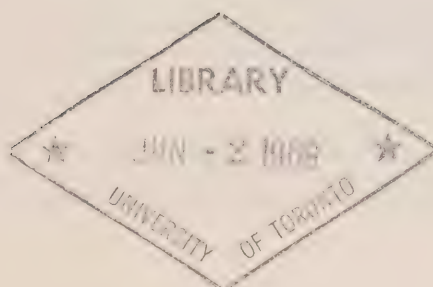
DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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CANADIAN AIRSPACE CHARACTERISTICS (Superseding NOTAM 9/66)

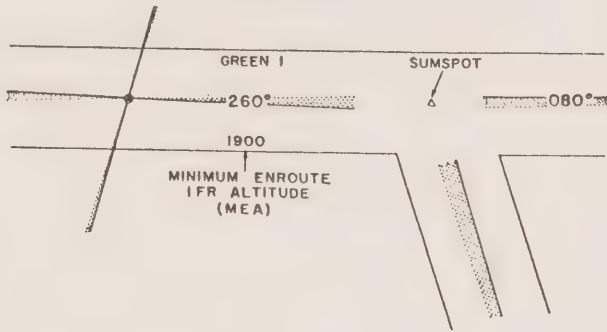
<u>CONTENTS</u>	<u>PAGE</u>
<u>Controlled Airspace</u>	
Definitions	2
Minimum IFR Altitudes	3
Designated Mountainous Regions	4
Controlled Airspace above F/L 230	4
<u>Uncontrolled Airspace</u>	
Recommended Operating Procedures	6
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CONTROLLED AIRSPACE

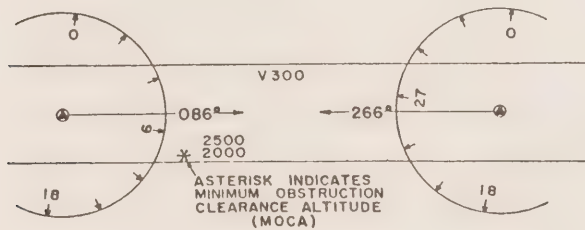
Low Altitude Airway and Air Route Safety Widths:

For the purpose of determining minimum IFR altitudes, all airways and air routes east of Amber 2 and including Amber 2 from Lethbridge, Alta., to Fort St. John, B. C., shall be 10 statute miles wide; all other airways and air routes including Amber 2 north of Fort St. John, B. C., shall be 20 statute miles wide.

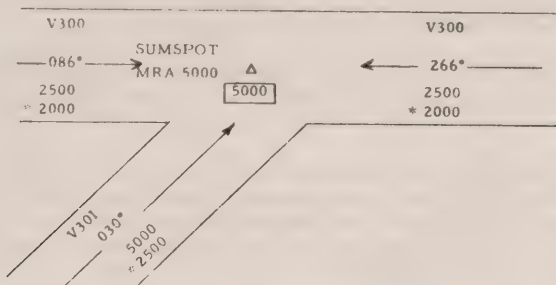


Minimum En Route IFR Altitude (MEA) - The lowest altitude above sea level between specified fixes on airways or air routes at which acceptable navigational signal coverage is received, and which meets the obstruction clearance requirements.

Minimum Obstruction Clearance Altitude (MOCA) - That altitude in effect between fixes on a VHF/UHF airway which meets the obstruction clearance requirement for the route segment.



MINIMUM RECEPTION ALTITUDE (MRA) - Minimum reception altitude when applied to a specific VHF/UHF intersection, is the lowest altitude above sea level at which acceptable navigational signal coverage is received to determine the intersection.



Obstruction Clearance Requirement: The obstruction clearance requirement on both LF and VOR airways and air routes is 1,000 feet above all obstacles within the lateral limits of the airway or air route for the entire distance between fixes.

MINIMUM IFR ALTITUDES

Minimum en route IFR altitudes have been established for all designated low altitude airways and air routes in Canada. The altitudes listed in the Designated Airspace Handbook published by the Department of Transport and available from the Department of Energy, Mines and Resources shall be the accepted minimum en route IFR altitudes. The MEA is the lowest altitude to be considered for flight planning purposes.

The flight plan altitude shall be the nearest even or odd thousand foot level appropriate to the direction of flight, at or above the minimum en route IFR altitude. Unless the minimum en route IFR altitude is one which is appropriate to the direction of flight, it is not to be used in the flight plan.

As different minimum en route IFR altitudes may be listed for adjoining segments of airways or air routes, aircraft are in all cases to cross the specified fix at which a change in minimum en route IFR altitude takes place at the higher altitude.

Where the minimum obstruction clearance altitude is lower than the minimum en route IFR altitude, the minimum obstruction clearance altitude will also be listed in the Designated Airspace Handbook. Where the minimum en route IFR altitude and the minimum obstruction clearance altitude are the same, only the minimum en route IFR altitude will be listed.

The minimum obstruction clearance altitude will provide, under conditions of standard temperature and pressure, 1000 feet clearance above all obstacles lying within the lateral limits of the airway or air route between specified fixes.

The minimum en route IFR altitude or the minimum obstruction clearance altitude whichever is the lower, is the lowest altitude above sea level for that portion of the route at which an IFR flight may be conducted under any circumstances. This altitude is provided in order that pilots will be readily aware of the lowest safe altitude which may be used in an emergency, such as malfunctioning engine or icing conditions.

When the minimum reception altitude for a specific VHF/UHF is higher than the listed minimum en route IFR altitude for that portion of the airway on which the intersection is located, the minimum reception altitude for the intersection will also be listed in the Designated Airspace Handbook.

DESIGNATED MOUNTAINOUS REGIONS

The Designated Airspace Handbook, published by this Department, contains a list of areas within which special minimum altitudes apply. These areas are the Designated Mountainous Regions of Canada and are depicted on the accompanying chart.

An aircraft, when operated in accordance with the Instrument Flight Rules within Designated Mountainous Regions, but outside of designated airways and air routes, shall be flown at an altitude at least 2,000 feet above the highest obstacle within 10 miles of the aircraft in flight.

As Minimum En Route IFR Altitudes have been established for designated airways and air routes, such minimum altitudes shall be applied when flying in accordance with the Instrument Flight Rules along airways or air routes within Designated Mountainous Regions, except that aircraft should be operated at an altitude which is at least 1,000 feet higher than the Minimum En Route IFR altitude, when there are large variations in temperature and/or pressure.

CONTROLLED AIRSPACE ABOVE FLIGHT LEVEL 230

All airspace above flight level 230 overlying the areas depicted on the accompanying chart and described as follows is designated as controlled airspace:

The Northern Control Area (NCA) is bounded by a line commencing at a point in Latitude 69°N, Longitude 141°W, thence proceeding to 72°N, 129°W; to 72°N, 92°05'W; to 74°N, 68°18'W; to 73°N, 67°W; to 65°30'N, 58°39'W; to 64°N, 63°W; to 61°N, 63°W; to 57°N, 59°W; to 53°N, 54°W; to 51°N, 62°30'W; to 52°N, 63°17'W; to 52°N, 100°W; to 54°49'N, 106°49'W; to 57°N, 114°W; to 57°N, 132°04'W; thence along the Canada-United States boundary to 60°21'N, 139°11'W; to 62°N, 141°W; thence along the Canada-United States boundary to the point of beginning.

The Southern Control Area (SCA) is bounded by the southern boundary of the Northern Control Area and the Canada-United States boundary within the Canadian Domestic Flight Information Region. (See accompanying chart)

Within both areas the following rules apply:

- (a) All flights operating below FL 450 must be conducted in accordance with the Instrument Flight Rules.
- (b) "1000-on-top" flight is not permitted at or below FL 450.

MILITARY FLYING AREAS

Blocks of airspace above flight level 230, designated as Military Flying Areas (MFAs), are reserved for the use of military training and testing flights. When approved by ATC, civil aircraft may traverse these areas.

DESIGNATED MOUNTAINOUS REGIONS AND
CONTROLLED AIRSPACE ABOVE FLIGHT LEVEL 230



UNCONTROLLED AIRSPACE

RECOMMENDED OPERATING PROCEDURES

When aircraft are manoeuvring in the vicinity of uncontrolled airports, or cruising in uncontrolled airspace, the lack of information on the movements of other aircraft operating in close proximity may occasion a potential hazard to all concerned.

To alleviate this situation, all pilots are advised that:

- (a) When operating in uncontrolled airspace, they should continuously monitor the frequency 122.2 MHz, whenever practicable.
- (b) Immediately before changing altitude in uncontrolled airspace, they should broadcast their intentions on 122.2 MHz whenever practicable. Such broadcasts should include the following:
 - (a) Last known position.
 - (b) Estimated next position.
 - (c) Present altitude or flight level.
 - (d) Intention (climb/descent).
 - (e) Planned altitude or flight level.
- (c) When making an IFR descent to, or departure from, any airport at which a D. O. T. Aeradio Station is located, (except when operating within controlled airspace), they should request traffic information from that station, 122.2 MHz being used for such communications whenever practicable. If there is no known traffic in the vicinity, the aeradio operator will advise "no local traffic reported". Otherwise, the operator will provide relevant traffic details in his reply to the aircraft.
- (d) When operating within 50 miles of any of the following stations, it is essential that they establish contact with the appropriate Aeradio Station, preferably on 122.2 MHz and provide details of their flight plan, last known position, track and altitude:

Cambridge Bay, N. W. T.	Kamloops, B. C.	Quesnel, B. C.
Coral Harbour, N. W. T.	Lake Eon, Que.	Schefferville, Que.
Dawson, Y. T.	Lac La Biche, Alta.	Smithers, B. C.
Fort Chimo, Que.	Norman Wells, N. W. T.	Terrace, B. C.
Fort Simpson, N. W. T.	Poste-De-La-Baleine, Que.	Uranium City, Sask.
High Level, Alta.	(Great Whale River)	Williams Lake, B. C.
Inuvik, N. W. T.	Prince George, B. C.	Wrigley, N. W. T.

This Department has published instrument approach procedures to a number of airports at which an Aeradio Station is not located. Consequently, all pilots planning an IFR descent to, departure from, or cruising flight in the vicinity of the following aerodromes are advised that they should "broadcast" their intentions on 122.2 MHz when 15 minutes flying time from the station, (except when operating in controlled airspace), and immediately prior to commencing descent, where applicable:

Trois-Rivieres, Que. Wabush, Nfld. Sarnia, Ont.

and any other airport at which an Aeradio Station is not located and at which it is known that IFR operations may be in progress.

The "Broadcast" should contain details of:

- (a) Estimated time of arrival or departure)
- (b) Cruising altitude or flight level)
- (c) Type of descent planned) Where applicable.
- (d) Time of departure)
- (e) Track of climb-out)

When passing position reports to D.O.T. Aeradio Stations, or other ground stations, pilots operating outside of controlled airspace should, whenever practicable, transmit such reports on 122.2 MHz. If it is necessary to use another frequency to establish communications with any ground station, all position reports should also be broadcast on 122.2 MHz for the information of other traffic operating in the vicinity. Such "Broadcasts" should contain details of:

- (a) Present position
- (b) Track
- (c) Altitude
- (d) Altimeter setting in use
- (e) Next position and estimated time of arrival.

Cruising Altitudes

All pilots are reminded of the terms of Air Navigation Order, Series V, No. 2, which specifies the Cruising Altitudes and Flight Levels to be used when operations are being conducted in uncontrolled airspace.

AERODROME TRAFFIC ZONES

To minimize the possibility of conflict between VFR and IFR operations at uncontrolled aerodromes and airports for which instrument approach procedures have been approved, "Aerodrome Traffic Zones", with a 5 statute mile radius from the centre of the aerodrome, have been designated at the locations listed below:

Cambridge Bay, N. W. T.	Inuvik, N. W. T.	Resolute, N. W. T.
Campbell River, B. C.	Kelowna, B. C.	Riviere-du-Loup, Que.
Charlevoix, Que.	Lac des Loups, Que.	Schefferville, Que.
Fort Chimo, Que.	Lynn Lake, Man.	Smithers, B. C.
Fort Simpson, N. W. T.	Manicouagan, Que.	Terrace, B. C.
Gagnon, Que.	Norman Wells, N. W. T.	Trois-Rivieres, Que.
Goderich, Ont.	Port Menier, Que.	Wabush, Nfld.
Hamilton, Ont.	Poste-De-La-Baleine, Que.	
High Level, Alta.	(Great Whale River)	
House Harbour, Magdalen Islands	Red Lake, Ont.	

All "Aerodrome Traffic Zones" will be as defined in Part I, Section 101 of the Air Regulations. The weather minima for VFR flight within these zones will be as published in Air Navigation Order, Series V, No. 3, viz:

- (a) Ground visibility shall be 3 miles,
- (b) Distance of an aircraft from cloud shall be 500 feet vertically and 1 mile horizontally,
- (c) Distance of an aircraft from ground or water shall be 500 feet vertically.

GOOSE UPPER FLIGHT INFORMATION REGION

The Goose Upper Flight Information Region (UIR) is designated as that airspace above Flight Level 230 within the area bounded by a line commencing at the North Pole; thence to 69°N, 141°W; to 72°N, 129°W; to 72°N, 92°05'W; to 74°N, 68°18'W; to 76°N, 76°W; to 78°N, 75°W; to 82°N, 60°W; to the point of beginning, and is depicted on the accompanying chart.

Flight Information Service is provided from the Goose Area Control Centre to all aircraft operating within the Goose UIR.



R. W. Goodwin,
Director, Civil Aviation.



NOTAM



26/67

2nd December

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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TEMPORARY RESTRICTED AIRSPACE

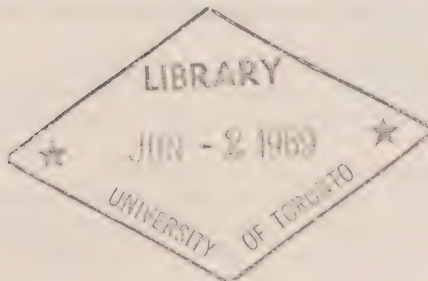
A large scale military air exercise to be known as Snow Time 68-3-E will take place over Eastern Canada between 0500 hours and 1500 hours Greenwich Mean Time January 12, 1968.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order has been made accordingly.

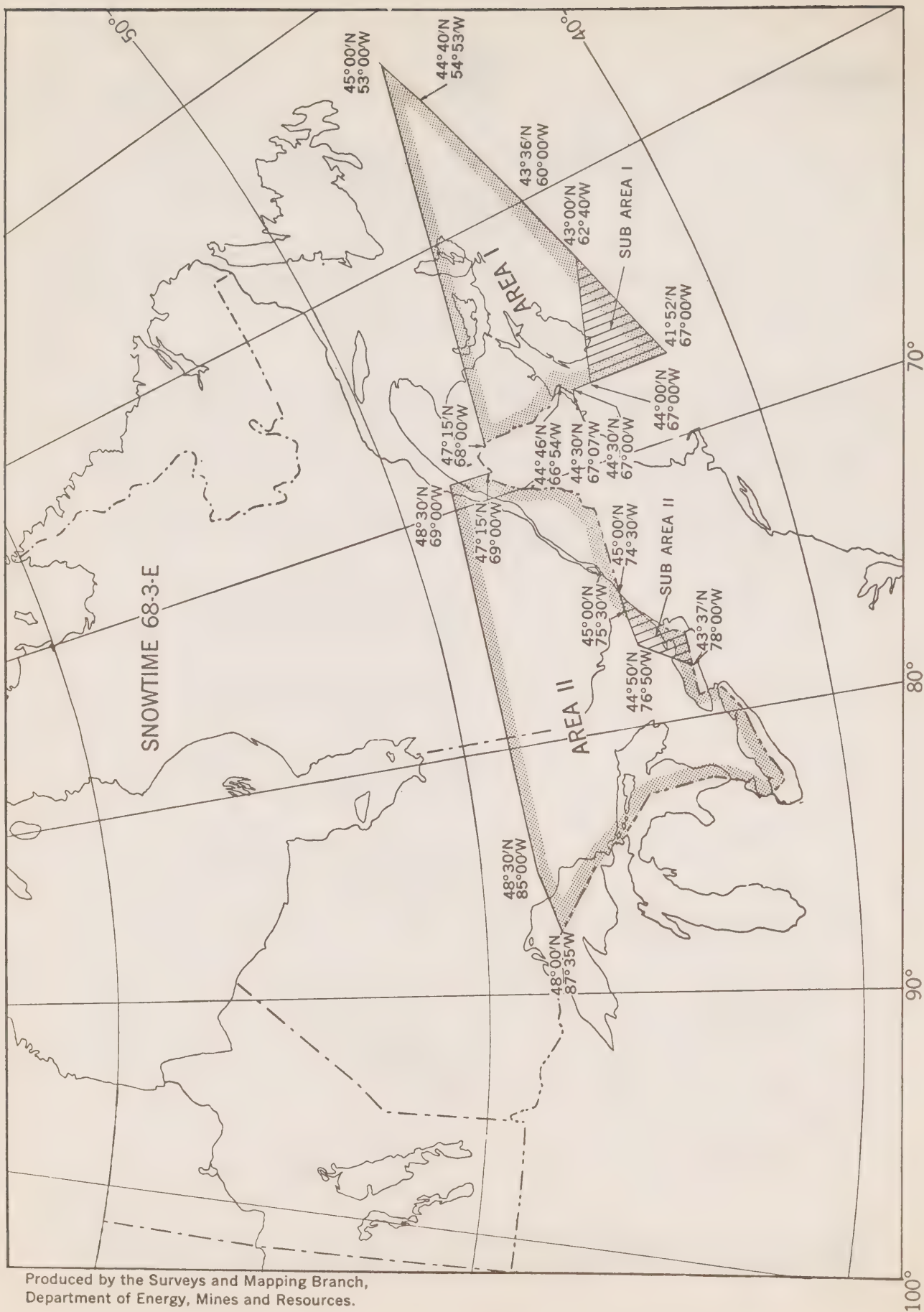
Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|-------------|---|
| AREA I | - between flight level 200 and flight level 450 between 0500 hours and 1000 hours Greenwich Mean Time January 12, 1968. |
| SUB AREA I | - below 2000 feet ASL between 0800 hours and 0850 hours Greenwich Mean Time on January 12, 1968. |
| AREA II | - between flight level 350 and flight level 450 between 0950 hours and 1500 hours Greenwich Mean Time January 12, 1968. |
| SUB AREA II | - below 6000 feet ASL between 0940 hours and 1020 hours Greenwich Mean Time on January 12, 1968. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Government
Publications
Air Traffic Control

27/67
21 November

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

AIR TRAFFIC CONTROL PROCEDURES (Supplementing NOTAM 4/67)

Extended Terminal Control Service

In the interest of improving flight safety in terminal areas, the air traffic control system of the Department of Transport will implement Extended Terminal Control Service in terminal areas around major Canadian airports.

Under the present system, radar surveillance is provided to IFR flights routinely and to VFR flights on request. The new service will employ radar for the surveillance, control and integration of all participating flights operating in a defined Extended Service Area. Participating flights will consist of all IFR flights and those VFR flights whose pilots wish to receive the service.

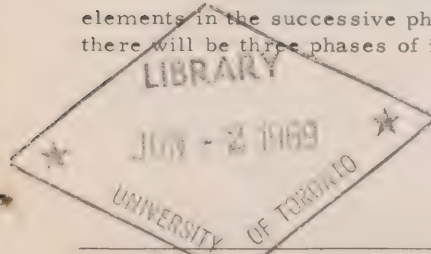
Airspace around other airports within the area will be defined and capped at suitable altitudes. Aircraft using this airspace will operate under normal existing rules and procedures.

All participating flights operating within the Extended Service Area and the control zone around the major airport will be directed via radar vectors, radio or visual reporting points. Therefore, it will be necessary for pilots of these flights to establish radio contact with ATC prior to operating within the Extended Service Area and the control zone serving the major airport and to maintain communication while operating within these areas.

The service will not relieve pilots of the responsibility for maintaining a sharp lookout for other aircraft and it will not, of course, relieve VFR pilots of their responsibility for remaining VFR. Visual separation may be used when a pilot informs ATC that he has his traffic in sight and has confirmed that he will be able to maintain visual separation. It will require that participating pilots be capable of maintaining communication with the appropriate ATC units, that they abide by ATC clearances and that they be prepared to accept such direction as will allow effective integration into a smooth air traffic flow. They will be required, for example, to follow ATC directives or radar vectors, provided compliance will not result in their entering weather conditions below the VFR weather minima. If it becomes apparent to a pilot that compliance would have this result, he must advise ATC immediately and will receive alternative instructions. As some VFR flights may not be equipped to utilize existing navigation aids, prominent geographical fixes for reporting, routing and holding purposes will be designated. Extreme care will be taken in selecting these fixes to ensure that they are readily identifiable from the air. Selected visual fixes will be depicted on charts accompanying the NOTAM mentioned below.

NOTAM will be published detailing for each selected location, where and when the service is to be implemented, the dimensions of the Extended Service Area and other related areas, the pilot and ATC procedures to be employed, and the radio frequencies and reporting points to be used.

The Extended Terminal Control Service will be phased in gradually and incorporate only certain elements in the successive phases. Within the Toronto Terminal Control Area, where it will first be initiated, there will be three phases of implementation:



TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

In Phase 1, which will commence on 1 December, 1967, arriving VFR and IFR flights below 2000 feet and within a 5 mile radius of the Toronto International Airport will be integrated for approach sequencing. Traffic information will be provided to arriving and to departing aircraft as well as to flights transiting this airspace. Pilots of all VFR flights operating within this airspace will be required to establish and maintain communication with the Toronto Control Tower and to proceed as cleared by the Tower.

In Phase 2, to be implemented 1 January, 1968, Extended Terminal Control Service will be provided to all participating VFR flights within a radius of 20 miles of the Toronto International Airport between the surface and 9,500 feet ASL. Within this area, participating pilots will be required to establish and maintain communications with Toronto Terminal Control except:

- (a) When operating within specified control zones,
- (b) When operating within free flying areas or corridors established for specified non-controlled airports, or
- (c) As otherwise directed by Terminal Control.

Participating pilots will be required to notify Terminal Control of their location in relation to radio or visual reporting points and obtain clearance prior to entering the area. They must fly in accordance with ATC clearances when within the area.

In Phase 3, which will commence 1 March, 1968, the area outlined for Phase 2 will be extended to a 30-mile radius of the Toronto International Airport. That portion of the area between 20 and 30 miles will be based at approximately 2000 feet ASL.

Extended Terminal Control Service will be provided as soon as possible at all major Canadian airports. While this service is being initiated on the basis of voluntary participation by pilots of VFR flights, they are encouraged to assist in improving flight safety by participating.



(R. W. Goodwin),
Director, Civil Aviation.

NOTAM



28/67
30th November

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

HAZARDS TO AIR NAVIGATION (Supplementing NOTAM 18/66)

CONTENTS

SECTION I

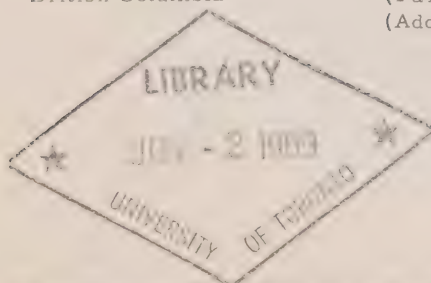
General Hazards

NIL

SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS LISTED BY PROVINCES

Quebec	Tall Structures - Harve ST Pierre (Additional Hazard)
	Tall Structures - ST Augustin (Additional Hazard)
	Blasting Operations - Baie Comeau (Additional Hazard)
Ontario	Tall Structures - Geraldton (Additional Hazard)
	Blasting Operations - Wawa (Additional Hazard)
Alberta	Tall Structures - Calgary (Additional Hazard)
	Tall Structures - Lacombe (Delete Hazard)
	Parachute Jumping - Namao (Additional Hazard)
British Columbia	(Parachute Jumping - Vernon (Additional Hazard)



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QUEBEC

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GROUND	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Harve St Pierre	Microwave Tower	50°16'15"	63°40'44"	575'	645'
St Augustin	Microwave Tower	51°14'12"	58°38'30"	525'	815'

BLASTING OPERATIONS - BAIE COMEAU

Excavation blasting is conducted Mondays to Fridays inclusive at 49°08'30"N, 68°23'23"W, approximately 8 miles West of Baie Comeau airport and 3 miles Northwest of Baie Comeau NDB as shown on the accompanying sketch.

All aircraft are advised to remain clear of the area within a one mile radius of the site and to a height of at least 4000 feet ASL during the period from 2200Hrs. GMT to 2300Hrs. GMT or as published in Class I NOTAM. Upon request Baie Comeau Tower will provide Flight Advisory Service during its hours of operation.



ONTARIO

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u> <u>LAT. N. LONG. W.</u>	<u>HEIGHT</u> <u>ABOVE GROUND</u>	<u>HEIGHT ABOVE</u> <u>SEA LEVEL</u>
Geraldton	CBLAT TV Tower	49°42'47" 86°46'40"	595'	1745'

BLASTING OPERATIONS - WAWA

Blasting operations are carried out on a continuous unscheduled basis in an area approximately 10 miles Northwest of Wawa at 48° 05'N, 48° 10'N, and 84° 40'W, 84° 45'W. Flight below 3000 feet above ground level, 4800 feet ASL, may be hazardous to aircraft.

ALBERTA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u> <u>LAT. N. LONG. W.</u>	<u>HEIGHT</u> <u>ABOVE GROUND</u>	<u>HEIGHT ABOVE</u> <u>SEA LEVEL</u>
Calgary	Restaurant Tower	51°02'39" 114°03'43"	600'	4038'

The item listed under this Heading on page 18 of NOTAM 18/66 concerning the CBX Radio Tower at Lacombe, Alta. is to be deleted. This Radio Tower has been dismantled.

PARACHUTE JUMPING AREA

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

NAMAC, ALTA.

Daily, at Plumley Farm, 53°42'N, 113°20'W, approximately 5½ miles East Northeast of Namac Airport, descents may be made from altitudes not exceeding 15,000 feet ASL during daylight hours. Descents are coordinated through Namac Tower.

BRITISH COLUMBIA

PARACHUTE JUMPING AREA

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

VERNON, B. C.

Parachute descents may be made from a maximum altitude of 15,000 feet ASL at 50°15'N, 119°10'20"W, approximately 6½ nautical miles East of Vernon Aerodrome, from 1500Hrs. GMT until dark on Saturdays, Sundays and Holidays.



R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Air Traffic Control

29/67
4th December

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

Extended Terminal Control Service
TORONTO, ONTARIO
(Supplementing NOTAM 27/67)

Effective 1 January, 1968, Extended Terminal Control Service will be provided by Toronto Air Traffic Control in specified airspace within the Toronto Terminal Control Area. The service will be provided to all IFR flights and participating VFR flights. Pilots participation is not mandatory but in the interest of improving flight safety within the Toronto Terminal Control Area all pilots operating in accordance with the Visual Flight Rules are urged to participate.

The Toronto Extended Terminal Control Service Area is that airspace extending upward from the surface to 9500 feet above sea level within a 20 statute mile radius of the Toronto International Airport excluding the Toronto International Airport Control Zone, the Toronto Island Airport Control Zone, the Downsview Airport Control Zone, the Buttonville Airport Control Zone, the Brampton Corridor and Maple-King City Corridor. (See attached chart.)

Flight Procedures

IFR Flights - Current IFR procedures will apply to IFR flights operating within the Toronto Extended Terminal Control Service Area.

Participating VFR Flights - Prior to operating within the Toronto Extended Terminal Control Service Area, pilots must establish and maintain radio communication with Toronto Terminal Control on 119.7 MHz. If radio equipment does not permit two-way communication on 119.7 MHz, pilots must transmit on 122.5 MHz and listen on 119.7 MHz.

Arriving and transitting aircraft shall contact Toronto Terminal Control when over or approaching those navigational aids or designated geographical fixes depicted on the attached chart.

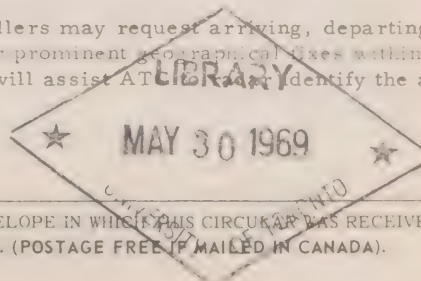
Departing aircraft from Toronto International, Toronto Island, Downsview and Buttonville airports intending to operate within the E. T. C. S. A. will be advised by the tower at the departure airport when to contact Toronto Terminal Control. Aircraft operating wholly within these control zones shall continue to maintain communication with the control tower controlling the zone.

Unless flight will be conducted within the E. T. C. S. A., aircraft operating within the Brampton and Maple-King City Corridors are not required to contact Toronto Terminal Control.

Any ATC instruction issued to VFR flights is based on the firm understanding that a pilot will advise ATC immediately if compliance with the instruction would result in his not being able to maintain adequate terrain or obstruction clearance, or to continue flight in accordance with the Visual Flight Rules. If so advised, ATC will issue alternate instructions.

ATC Procedures

When aircraft are within radar coverage, controllers may request arriving, departing or transitting aircraft to report their position in relation to radio or prominent geographical fixes within or outside the perimeter of the extended service area. These reports will assist ATC in identifying the aircraft.



Participating VFR aircraft may be provided with routing instructions in the E. T. C. S. A.

Radar vectors and altitude assignments may be given to VFR flights operating within the E. T. C. S. A. on a workload permitting basis. This service may be provided when:

- (a) requested by the pilot,
- (b) suggested by the controller and acceptable to the pilot, or
- (c) in the judgement of the controller, it is considered necessary to ensure flight safety.

To the extent possible, traffic information on observed but unidentified radar targets, flight information and radar navigation assistance will be provided to VFR flights.

THESE PROCEDURES ARE NOT TO BE INTERPRETED AS RELIEVING PILOTS OF THEIR RESPONSIBILITY TO SEE AND AVOID OTHER TRAFFIC, TO MAINTAIN APPROPRIATE TERRAIN AND OBSTRUCTION CLEARANCE, OR TO REMAIN IN WEATHER CONDITIONS EQUAL TO OR BETTER THAN THE PUBLISHED VFR MINIMA.

General

Pilots must establish and maintain radio communication with the appropriate control tower prior to operating within control zones at the following airports:

Buttonville
Downsview
Toronto International
Toronto Island

The control zones and corridors within the E. T. C. S. A. will be defined as follows:

- (a) Buttonville, Downsview and Toronto Island control zones - within a three nautical mile radius of the centre of the respective airports and extending vertically to 2000' above sea level.
- (b) Toronto International control zone - within a five nautical mile radius of the centre of of the Toronto International Airport excluding the Brampton Corridor and extending vertically to 2000' above sea level.

NOTE: Special VFR flight normally will not be authorized within the Toronto International Control Zone.

- (c) Brampton Corridor is the area bounded on the east by Highway No. 10, on the south by Steeles Ave., on the north by the C. N. R. tracks, and on the west by the Streetsville Road. The corridor extends one mile either side of the northwest branch of the C. N. R. tracks between Brampton and Acton to the outer perimeter of the E. T. C. S. A. The corridor is capped at 2000' above sea level.
- (d) Maple-King City Corridor is the area bounded on the west by the First Line west of Highway 400, on the south by the 17th Concession Road, on the east by Dufferin Street, and on the north by the outer perimeter of the E. T. C. S. A. The corridor is capped at 2000' above sea level.

SEE ATTACHED CHART



(R. W. Goodwin),
Director, Civil Aviation.

TORONTO EXTENDED TERMINAL CONTROL SERVICE AREA



LEGEND

NUMBERED VISUAL AIDS

- ① Burlington - Skyway Bridge
- ② Campbellville - Mohawk Race Track
- ③ Acton - Beardmore Plant
(in centre of town)

- ④ Orangeville
- ⑤ Aurora - Green Water Tank
(in centre of town)
- ⑥ Markham
- ⑦ Fairport Beach

Control zones

TORONTO
116.2

VORTAC

○ Non-directional radio beacon

NOTAM



Summary

1/68
1st January

DEPARTMENT OF TRANSPORT

AIR SERVICES CIVIL AVIATION BRANCH

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NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st JANUARY, 1968

1966	1967			
8/66	4/67	13/67	22/67	26/67
15/66	5/67	16/67	23/67	27/67
18/66	6/67	18/67	24/67	28/67
21/66	7/67	19/67	25/67	29/67

HAZARDS TO AIR NAVIGATION

18/66 Hazards to Air Navigation
6/67 Hazards to Air Navigation (Amends 18/66)
7/67 Danger Areas - Strait of Georgia, B.C. (Supplements 18/66)
22/67 Hazards to Air Navigation (Amends and Supplements 18/66)
28/67 Hazards to Air Navigation (Supplements 18/66)

LAND AERODROMES

21/66 Special Procedures and Facilities
5/67 Special Procedures and Facilities (Amends 21/66)
18/67 Restricted use of Puntzi Mountain, B.C. (Supplements 21/66)
16/67 Special Procedures and Facilities (Supplements 21/66)
23/67 Special Procedures and Facilities (Amends and Supplements 21/66)
19/67 Noise Abatement Procedures - Montreal and Toronto International Airports (Amends 21/66)

WATER AERODROMES

24/67 Special Procedures and Facilities

AIR TRAFFIC CONTROL PROCEDURES

8/66 Area Control Above FL 230
15/66 Special VFR Procedures - Vancouver International Airport
4/67 Air Traffic Control Procedures
13/67 North Atlantic Navigational Data Collection Programme
27/67 Extended Terminal Control Service (Supplements 4/67)
29/67 Extended Terminal Control Service (Supplements 27/67)

CANADIAN AIRSPACE CHARACTERISTICS

25/67 Canadian Airspace Characteristics
26/67 Temporary Restricted Airspace - January 12th, 1968

MAY 30 1969

E. W. COOPER
Director, Civil Aviation

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

NOTAM



Restricted Airspace

2/68
2nd January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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TEMPORARY RESTRICTED AIRSPACE

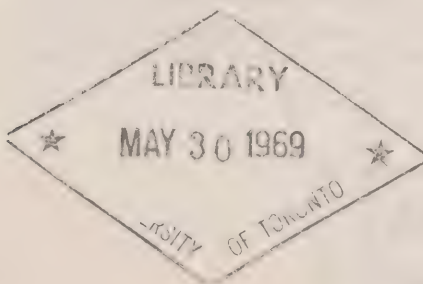
A large scale military air exercise to be known as Snow Time 68-4-E will take place over eastern Canada between 0500 hours and 1500 hours Greenwich Mean Time February 16, 1968.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order has been made accordingly.

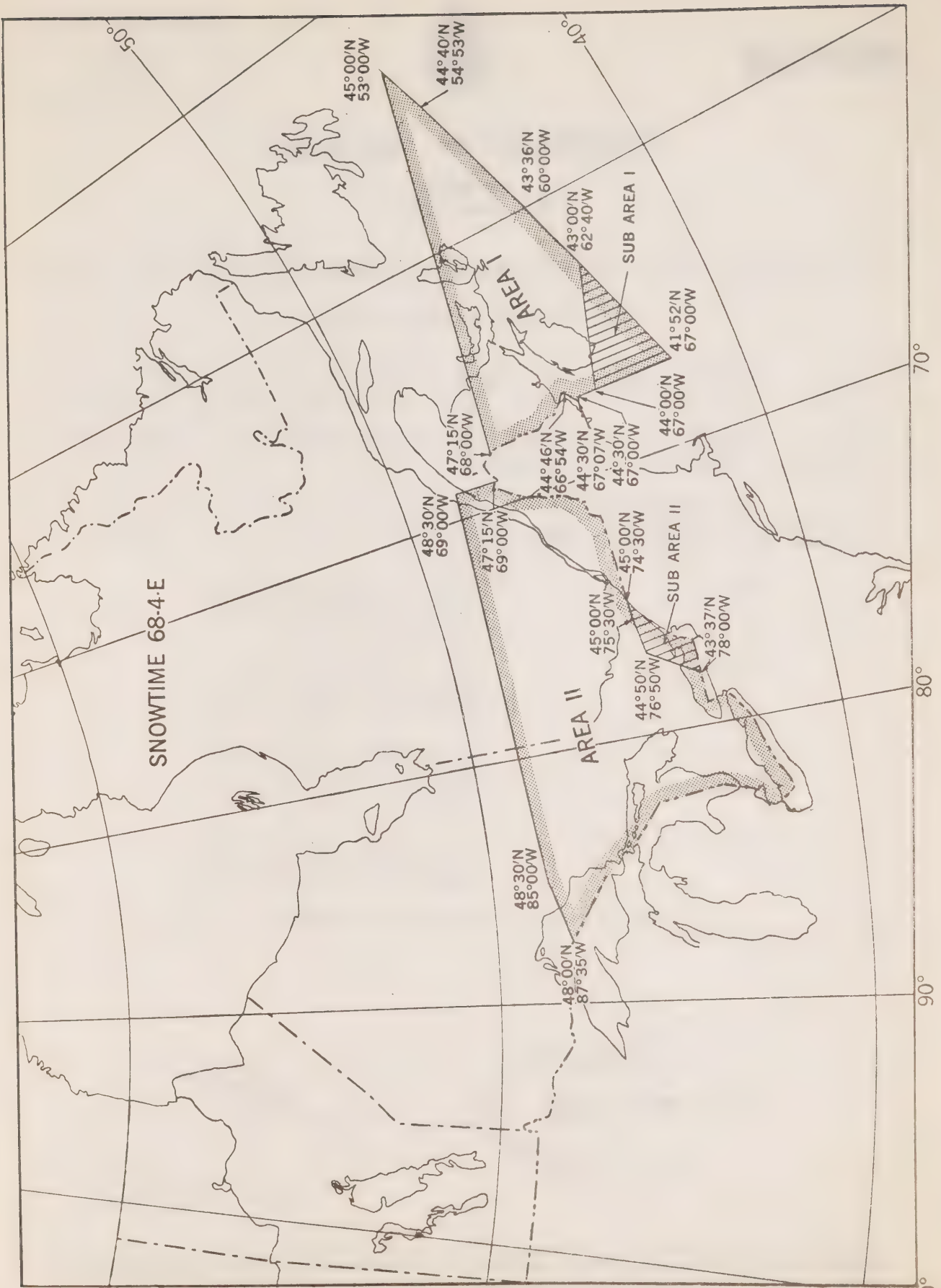
Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|-------------|---|
| AREA I | - between flight level 200 and flight level 450 between 0500 hours and 1000 hours Greenwich Mean Time on February 16, 1968. |
| SUB AREA I | - below 2000 feet ASL between 0800 hours and 0850 hours Greenwich Mean Time on February 16, 1968. |
| AREA II | - between flight level 350 and flight level 450 between 0950 hours and 1500 hours Greenwich Mean Time on February 16, 1968. |
| SUB AREA II | - below 6000 feet ASL between 0940 hours and 1020 hours Greenwich Mean Time on February 16, 1968. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Government
Publication
Air Traffic Control

3/68
22nd January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

AIR TRAFFIC CONTROL PROCEDURES (Supplementing NOTAM 4/67) SPECIAL PROCEDURES IN THE GANDER OCEANIC CONTROL AREA

1. The following special procedures for North Atlantic Air Traffic within the Gander Oceanic Control Area have been implemented on a trial basis. These procedures have been in effect since 24 August, 1967, with publication of a Class I NOTAM and these procedures will continue to apply until further notice.
2. Pilots entering the Gander Oceanic Control Area may expect that an abbreviated clearance will be issued when Air Traffic Control clears the aircraft to follow one of the organized tracks which are preplanned by ATC to organize and accommodate the oceanic traffic during peak traffic periods. If a pilot is cleared on other than an organized track, ATC will specify full details of the cleared track within the clearance.
3. When an abbreviated clearance is issued, it will include the cleared track which will be specified by a code letter, the flight level at which the aircraft is cleared, the Mach number to be maintained and, if the aircraft is designated to report meteorological information, the pilot will be advised by the inclusion in the clearance of the phrase "Send Met. Reports". On receipt of this abbreviated clearance, the pilot shall read back to the issuing authority the full details of the track specified by the code letter and in addition the other contents of the clearance message. The New York, Moncton and Gander Area Control Centres in issuing clearances for eastbound flights over the North Atlantic on an organized track will identify the track to be used by one of the last five letters of the alphabet. As part of the preflight planning, operators are to ensure that their crews have the current organized track information which is issued by the Gander Area Control Centre.
4. Unless otherwise requested by Air Traffic Control, position reports within the Gander Oceanic Area shall be made as follows:
 - (a) Predominantly north/south flights shall report at each significant point listed in the flight plan.
 - (b) Westbound flights shall report at 30°00'W, 40°00'W, 50°00'W and if operating north of 53°00'N shall also report at the Domestic/Oceanic boundary. In addition, all flights which are operating below Flight Level 290 shall also report at 45°00'W.
 - (c) Eastbound flights shall report at 50°00'W, 40°00'W, 30°00'W and if operating north of 53°00'N shall also report at the Domestic/Oceanic boundary.

MAY 30 1969

DEPT. OF TRANSPORT

5. In these position reporting procedures, the pilot shall normally identify the subsequent position to report as the significant point at which the aircraft is next required to report its position. If the estimated time over the next significant point is found to be in error by five minutes or more, a revised estimated time shall be transmitted as soon as possible to the appropriate Air Traffic Control Unit. For turbo-jet aircraft, the Mach number shall be included in the position report only when this information is specifically requested by Air Traffic Control.

6. All pilots operating aircraft within the Gander Oceanic Control Area under the Instrument Flight Rules shall make, record and report on a routine basis meteorological observations at each designated reporting point. This stipulation applies whether the aircraft is eastbound or westbound; however, aircraft which are cleared on an organized track are not required to make such observations or reports unless specifically requested to do so within their Air Traffic Control clearance.



(R. W. Goodwin),
Director, Civil Aviation.

NOTAM



Publications
Hazards and Obstructions

4/68
25th January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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HAZARDS TO AIR NAVIGATION
(Supplementing and Amending NOTAM 18/66)

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SECTION I

GENERAL HAZARDS

NIL

SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO
AIRCRAFT OPERATIONS BY PROVINCES

British Columbia

Transmission Line Crossings
(Revisions and Additions)

Parachute Jumping Area
(Addition)

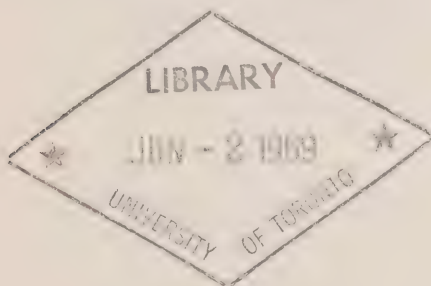
BRITISH COLUMBIA

TRANSMISSION LINE CROSSINGS

The following list does not include all cable crossings within the province of British Columbia but only those considered more hazardous to flight. Pilots should take appropriate precautions when flying in the vicinity of these crossings.

Revisions -

Delete all transmission line crossings on pages 19, 20, 22, and 23 of NOTAM 18/66. These are superseded in the following list.



TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS OBSTRUCTION PAINTED SHORE MARKERS CONDUCTORS OR CABLES MARKED		
			ASL				
AGAMEMNON CHANNEL,	49°44'55" N. 124°02'30" W.	6305'	650'	125'	X	X	X
ALICE ARM NASS RIVER,	55°22' N. 129°02' W.	2500'	452'	30'	X		X
BAMFIELD INLET	48°50' N. 125°08' W.	500'	81'	70'	X		X
BARNETT,	49°17'30" N. 122°55'00" W.	2868'	334'	160'	X		X
(note - two crossings at Barnett separated by $\frac{1}{2}$ mile)							
BARNETT,	49°17'30" N. 122°54'30" W.	3268'	540'	160'	X		X
BOSTON BAR,	49°52' N. 121°27' W.	1019'	400'	100'	X		X
BRIDGE RIVER	50°47'10" N. 122°13'55" W.	1964'	2424'	38'	X		X
BRIDGE RIVER KELLY LAKE	50°46' N. 121°53' W.	2235'	1022'	110'			markings undetermined
CLINTON	51°05' N. 121°36' W.	1700'	3400'	300'	X		X
COLUMBIA RIVER	51°25'14" N. 118°27'30" W.	1000'	78'	50'	X		X
COTTONWOOD RIVER	59°09' N. 122°23' W.	6014'	2562'	206'			X
DODDS NARROWS	49°08'10" N. 123°49'00" W.	1400'	195'	126'	X	X	X
FINLAYSON ARM	48°30'05" N. 123°32'40" W.	3450'	830'	240'	X		X
(note - 2 spans in parallel at Finlayson Arm)							
FRASER RIVER	50°45' N. 121°56' W.	2201'	1132'	348'	X		X
							crossing at Bridge River
MONTAGUE HARBOUR	48°53'40" N. 123°25'00" W.	8840'	360'	125'			
(note - crossing consists of three spans in parallel 80' apart over the channel to Montague Harbour, between Parker Island and Galiano Island. South towers are obstruction painted, spherical markers on South conductor, North towers and conductor unmarked, no shore markers.)							
HARRISON RIVER	49°18'10" N. 121°48'30" W.	3694'	900'	560'	X	X	X

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE
HORNE LAKE	49°21' N. 124°42' W.	5889'	1174'	133'
(note - Horne Lake crossing has two spans)				
INDIAN ARM BEDWELL BAY	49°03'50" N. 122°47'00" W.	9673'	529'	160'
JERVIS INLET	49°46'30" N. 124°07'30" W.	10,100'	1700'	175'
KAMLOOPS	50°41'30" N. 120°02'15" W.	1462'	1208'	35'
(note - crossing is on Thompson River, two miles east of Kamloops airport)				
KOOTENAY LAKE	49°45'39" N. 116°07'30" W.	10,600'	3048'	100'
KOOTENAY RIVER	49°29'20" N. 117°18'45" W.	3400'	2131'	90'
LOWER ARROW LAKE	49°54' N. 118°03' W.	5625'	2635'	116'
LYTTON FRASER RIVER	50°46' N. 121°38' W.	2360'	1159'	348'
NICOLA LAKE	50°09'45" N. 120°38'30" W.	860'	2104'	37'
(note - two parallel crossings on Nicola Lake, 1½ miles apart)				
NICOLA LAKE	50°09'25" N. 120°36'15" W.	1341'	2245'	38'
NORTHUMBERLAND CHANNEL	49°08'10" N. 123°46'40" W.	3000'	300'	90'
PEACE RIVER	51°38' N. 118°37' W.	unknown	unknown	20'
PENDER HARBOUR	49°37'30" N. 124°01'25" W.	805'	170'	115'

TOWERS CONSTRUCTION
PAINTED
SHEATHING
CONDUCTORS OR
CABLES MAINTAINED

2 miles West
of Nelson

Gabriola
Island

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS CASTROUCTION PAINTED SHORE MARKERS CROSSING CABLES PAINTED		
SANSUM NARROWS	48°49'40"N. 123°35'00" W.	6841'	959'	200'	X	X	X
SETON LAKE	50°43'N. 122°16' W.	4400'	1572'	65'	X	X	X
SEYMOUR NARROWS	50°07'55" N. 125°21'10" W.	3228'	350'	160'	X		X
SKEENA RIVER	54°10'40"N. 129°37'10" W.	6000'	100'	30'	X		X
SKEENA RIVER	54°12'N. 129°55' W.	8000'	150'	35'	X		X

PARACHUTE JUMPING AREA

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

PRINCE GEORGE, B. C.

From time to time within an area located approximately 12 statute miles southwest of the Airport at 53°47'N., 122°56'W., sky-diving descents may be made from altitudes not exceeding 11,000 feet ASL during daylight hours. All descents will be coordinated through Prince George Tower.



R. W. Goodwin,
Director, Civil Aviation.

NOTAM



5/68
30th January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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FRASER CANYON VHF COMMUNICATION SERVICE

(Supplementing NOTAM 25/67)

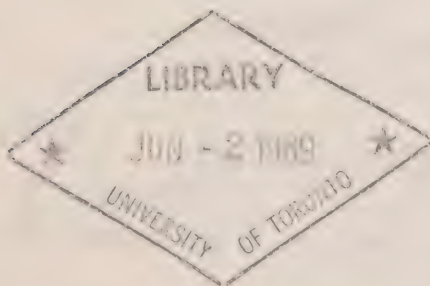
Vancouver - Hope - Ashcroft - Kamloops - 100 Mile House

A VHF transmitter/receiver operating on 122.2 MHZ and linked to the Kamloops Aeradio Station by landline has been installed at Boston Bar, B.C., to provide communications for aircraft operating VFR along the Fraser Canyon route between Hope B.C. and 100 Mile House, B.C.

To obtain optimum advantage from this service, pilots are advised to abide by the following procedures:

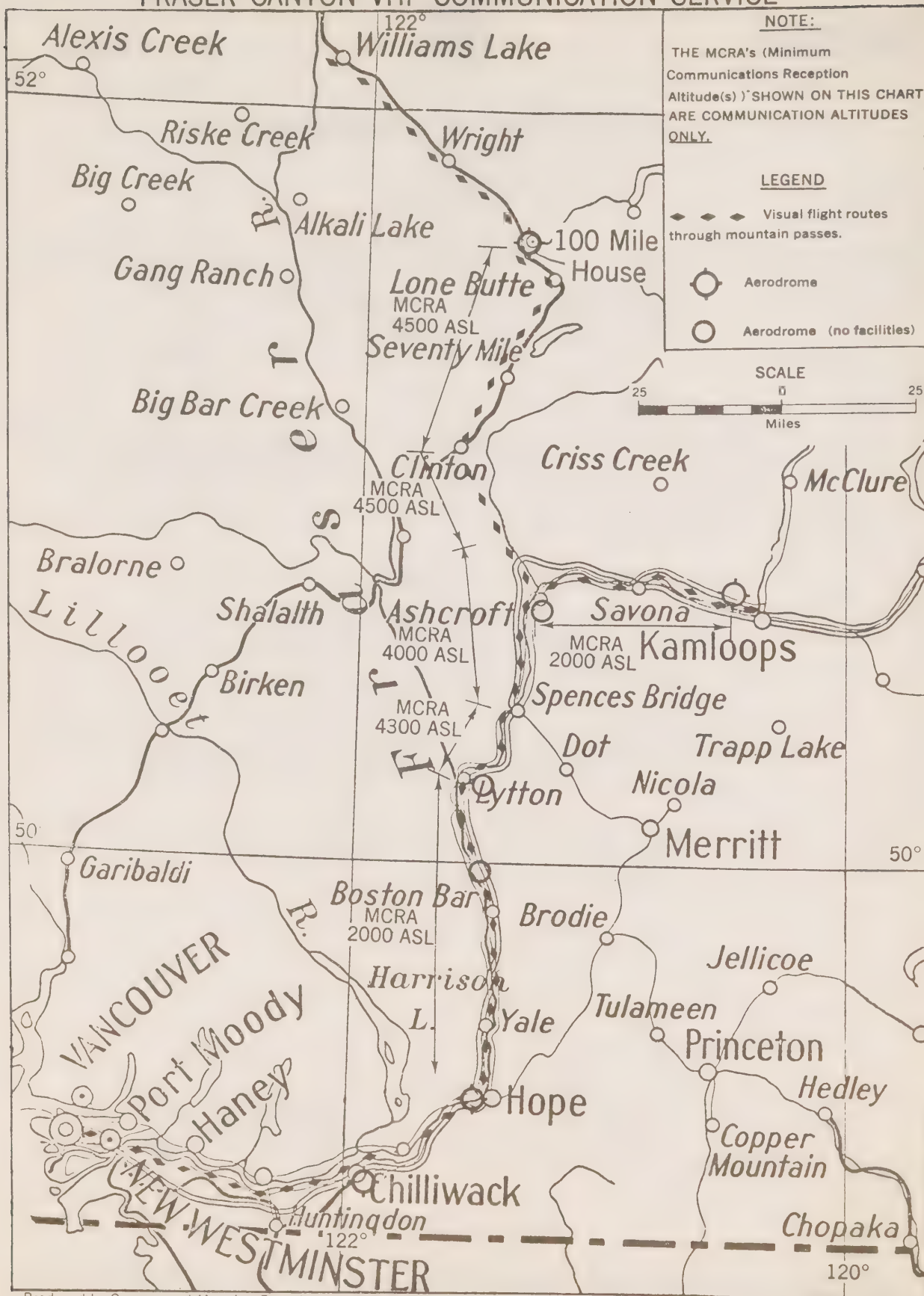
- (a) Communications Procedure - Call Kamloops Radio on 122.2 MHZ.
- (b) For reliable communication, pilots must fly the prescribed route at an altitude no less than the established MCRA (Minimum Communications Reception Altitude) as shown on the accompanying chart.
- (c) Pilots deviating from the prescribed flightway are to advise their alternate routing.
- (d) Pilots are requested to report northbound by Lytton or southbound by Hope giving enroute flight conditions if unusual or unforecast weather conditions are encountered.

For evaluation purposes, pilots are requested to comment on the operational results of the Reporting Service via radio to Kamloops or Abbotsford Aeradio or in writing to the Regional Director, Air Services, 739 West Hastings Street, Vancouver 1, B.C.



R.W. Godwin
R.W. Godwin,
Director, Civil Aviation.

FRASER CANYON VHF COMMUNICATION SERVICE



NOTAM



Public...
Air Traffic Control

6/68
1st February

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 4

HOLDING PROCEDURES (Supplementing NOTAM 4/67)

The following in-flight holding procedures, which are essentially those agreed by ICAO, will be implemented throughout Canadian airspace, effective 1 March, 1968.

General

Standardization of aircraft entry and holding manoeuvres is essential for the efficient and economical use of airspace in the control of air traffic. Since ATC will separate aircraft on the assumption that pilots are adhering to these procedures, compliance is essential.

Holding patterns depicted on radio navigation enroute charts, terminal charts and Canada Air Pilot instrument approach charts are published as a guide only, to enable pilots to anticipate normal holding instructions. Except as otherwise authorized by ATC, pilots reaching a clearance limit are expected to hold in a standard pattern on their inbound track to such clearance limit.

If for any reason a pilot is unable to conform to the procedures for normal conditions laid down for any particular holding pattern, he should advise Air Traffic Control as early as possible.

During entry and holding, all turns are to be made so as to achieve an average bank angle of at least 25°, or a rate of 3° per second, whichever requires the lesser bank.

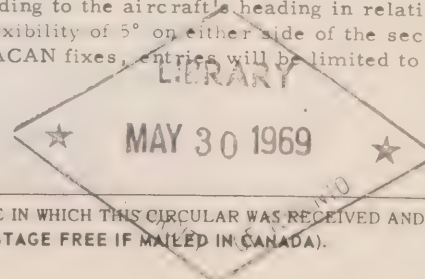
A holding clearance issued by ATC will include at least the following information:

- (a) Clearance to the holding fix.
- (b) Direction to hold from the holding fix.
- (c) On specified, radial, course, inbound track, airway number.
- (d) If DME is used, the DME distances at which the fix end and outbound end turns are to be commenced. (E. G., "Hold between (number of miles) and (number of miles).")
- (e) Time to expect further clearance, time to expect approach clearance, or time to leave the fix in the event of communication failure.

Unless the clearance given by ATC contains instructions to the contrary, all turns after initial entry into the holding pattern shall be made to the right.

Entry Procedures

The entry into a holding pattern shall be made according to the aircraft's heading in relation to the three sectors shown in Figure 1, recognizing a zone of flexibility of 5° on either side of the sector boundaries. For holding on VOR intersections or VOR-DME/TACAN fixes, entry will be limited to the radials or DME arcs forming the fix, as appropriate.



TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

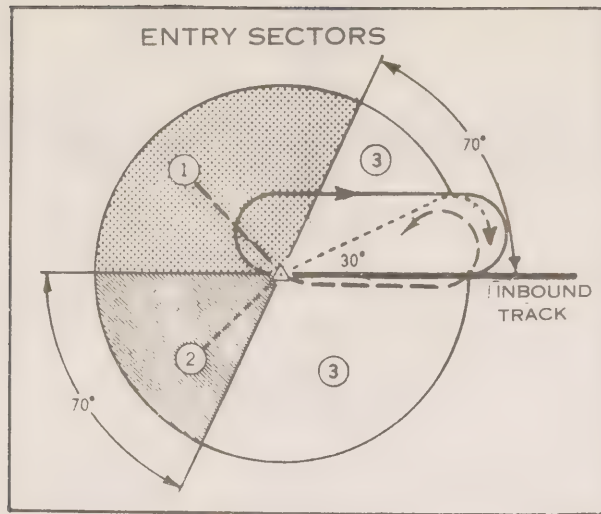


FIGURE 1

Sector 1 Procedure (Parallel entry)

- (a) Upon reaching the fix, turn onto an outbound heading for the appropriate period of time.
- (b) Turn left to intercept the inbound track.
- (c) On second arrival over the fix, turn right and follow the holding pattern.

Sector 2 Procedure (Offset entry)

- (a) Upon reaching the fix, turn to a heading which will make good a track having an angle of 30° or less from the inbound track on the holding side.
- (b) Continue for the appropriate period of time, then turn right to intercept the inbound track and follow the holding pattern.

Sector 3 Procedure (Direct entry)

Upon reaching the fix, turn right and follow the holding pattern.

The still air time for flying the outbound entry heading should not exceed one minute if at or below 14,000 feet ASL, or 1½ minutes if above 14,000 feet ASL. Entry timing is to begin over or abeam the fix.

Standard Holding Pattern

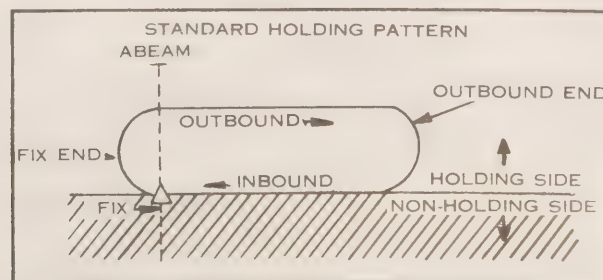


FIGURE 2

A standard holding pattern shall be flown as depicted in Figure 2 and described below. These procedures are described in terms of still air conditions.

- (a) Having entered the holding pattern, on the second and subsequent arrivals over the fix, execute a right turn to fly an outbound track which will most appropriately position the aircraft for the turn onto the inbound track.
- (b) Continue outbound for one minute if at or below 14,000 feet ASL or for 1½ minutes if above 14,000 feet ASL.

NOTE: Distance may be specified by ATC instead of time where a DME fix is to be used for holding.

- (c) Turn right so as to realign the aircraft on the inbound track.

Due allowance should be made in both heading and timing to compensate for the effects of known wind, except when turning.

Outbound timing should start from abeam the fix, or on attaining the outbound heading, whichever occurs later.

When holding at a VOR, pilots should begin the turn to the outbound leg at the time of the complete reversal of the TO-FROM indicator.

When ATC clearance is received specifying the time to depart the holding pattern, the pilot should adjust his flight pattern within the limits of the established holding pattern in order to leave the fix as close as possible to the time specified.

Non-Standard Holding Pattern

A non-standard pattern requires that:

- (a) Fix end and outbound end turns be made to the left, and/or
- (b) Time along the outbound track be other than the 1-minute or 1½-minute leg appropriate for altitude being flown.

Entry procedures to a non-standard pattern requiring left turns are oriented in relation to the 70° line on the holding side, just as in the standard pattern. Refer to Figure 3.

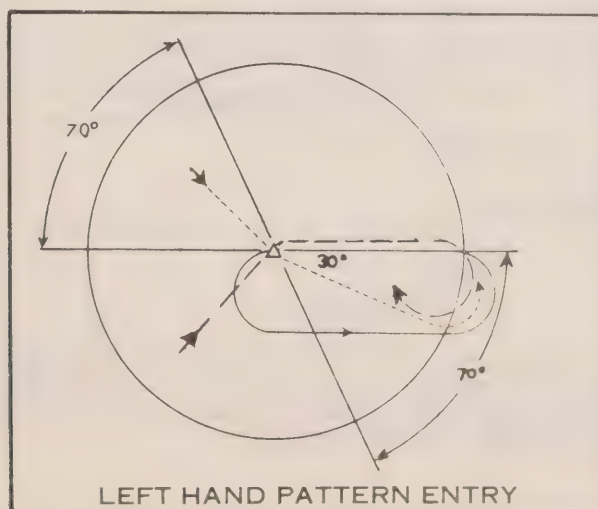


FIGURE 3

Speed Limitations

Holding patterns must be entered and flown at or below the following airspeeds:

- | | | |
|-----|--|----------|
| (a) | propeller-driven aircraft | 175K IAS |
| (b) | turbo-jet aircraft | |
| | (i) Up to 6000 feet, inclusive | 200K IAS |
| | (ii) Above 6000 feet to 14,000 feet, inclusive | 210K IAS |
| | (iii) Above 14,000 feet | 230K IAS |
| (c) | turbo-prop aircraft may operate at normal climb IAS while climbing in a holding pattern and turbo-jet aircraft may operate at 310K IAS or less, while climbing in a holding pattern. | |

Pilots are to advise ATC immediately if airspeeds in excess of those specified above become necessary for any reason, including turbulence, or if unable to accomplish any part of the holding procedure. After such higher speed is no longer necessary, the aircraft should be operated at or below the specified airspeeds, and ATC notified.

NOTE: Airspace protection for turbulent air holding is based on a maximum of 280K IAS or Mach .8, whichever is lower. Considerable impact on the flow of air traffic may result when aircraft hold at speeds which are higher than those specified above.

After departing a holding fix, pilots should resume normal speed subject to other requirements, such as speed limitations in the vicinity of controlled airports, specific ATC requests, etc.

DME Procedures

DME holding is subject to the same entry and holding procedures previously described except that distances, in nautical miles, are used in lieu of time values.

In describing the direction from the fix on which to hold and the limits of a DME holding pattern, an ATC clearance will specify the DME distance from the navigation aid at which the inbound and outbound legs are to be terminated. The end of each leg is determined by the DME indication.

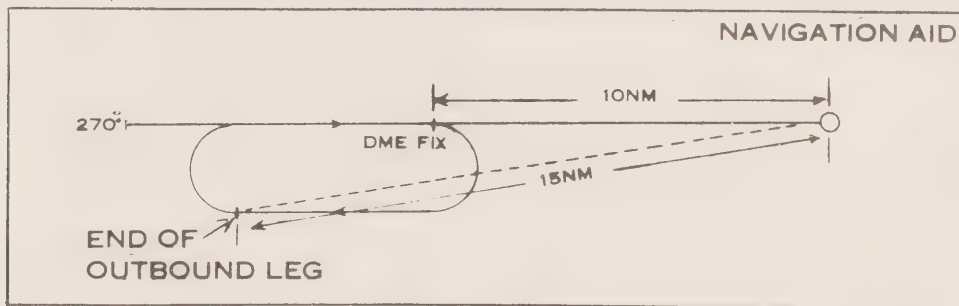


FIGURE 4

Example - An aircraft cleared to the 270 RADIAL 10 MILE DME FIX, to HOLD BETWEEN 10 AND 15 MILES, will hold inbound on the 270° radial, commence turn to the outbound leg when the DME indicates 10 NM and commence turn to inbound leg when the DME indicates 15 NM.

R.W. Goodwin
R.W. Goodwin,
Director, Civil Aviation.

NOTAM



Public
Restricted Airspace

7/68
8th February

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

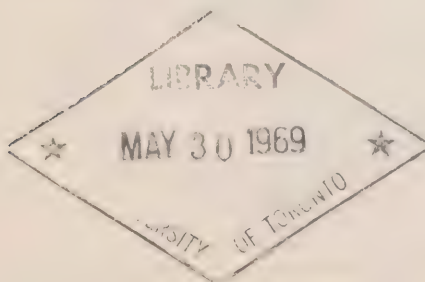
A large scale military air exercise to be known as Top Rung 68-2-E will take place over Eastern Canada between 0500 hours and 1300 hours Greenwich Mean Time March 8, 1968.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order has been made accordingly.

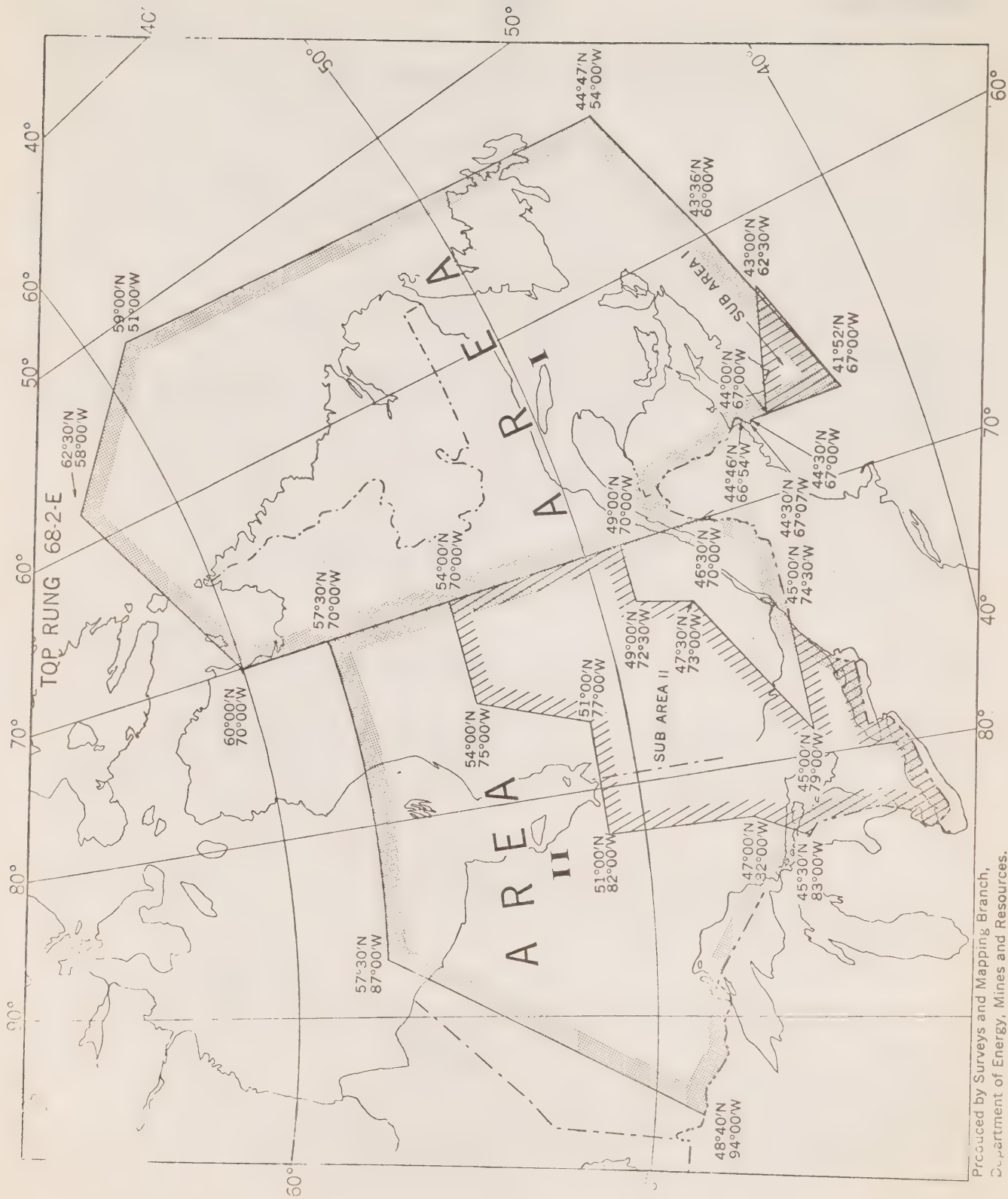
Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|-------------|---|
| AREA I | - between flight level 330 and flight level 430 between 0500 hours and 1000 hours Greenwich Mean Time on March 8, 1968. |
| SUB AREA I | - below 2000 feet ASL between 0740 hours and 0850 hours Greenwich Mean Time on March 8, 1968 |
| AREA II | - between flight level 200 and flight level 450 between 0300 hours and 1300 hours Greenwich Mean Time on March 8, 1968. |
| SUB AREA II | - below flight level 200 between 0630 hours and 1000 hours Greenwich Mean Time on March 8, 1968. |

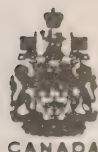
A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Publications
Hazards & Obstructions

8/68
1st March

DEPARTMENT OF TRANSPORT

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CIVIL AVIATION BRANCH

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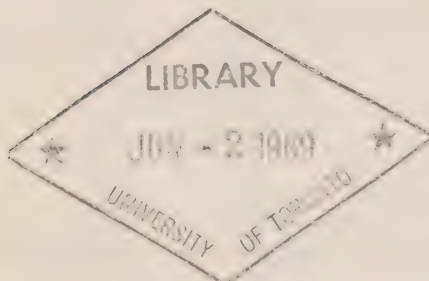
HAZARDS TO AIR NAVIGATION (Supplementing NOTAM 18/66)

UNITED STATES AIR FORCE - LOW LEVEL TRAINING FLIGHTS

Effective March 28th, 1968 until approximately September 30th, 1968, United States Air Force low level training flights over Canada (Kenora OB-52) will penetrate Canadian Airspace from bases located in the United States and proceed direct to Kenora, Ont.

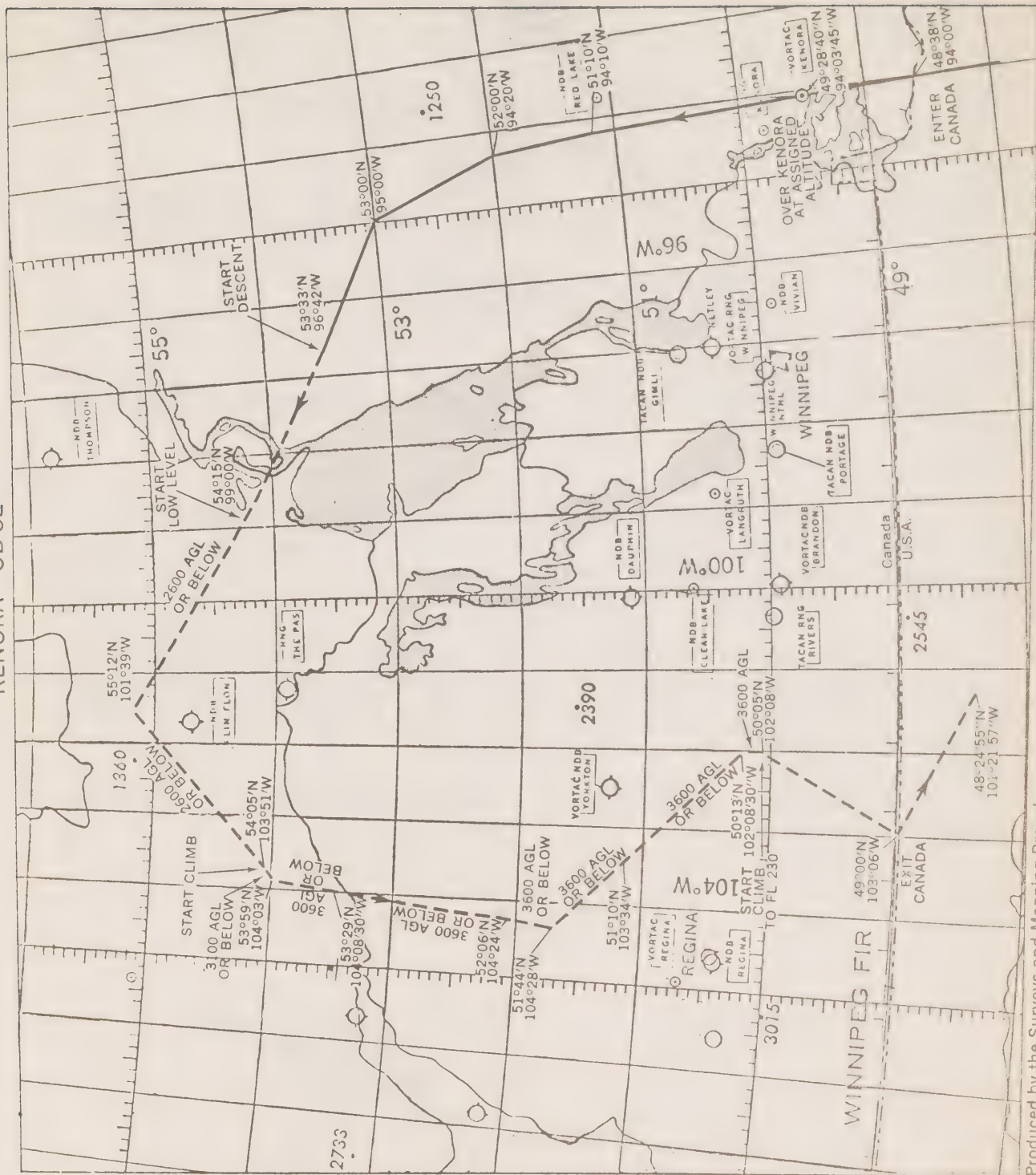
From Kenora the aircraft will follow the route (4 NM either side of the centre line) and be flown at the altitudes shown on the accompanying chart. The training flights may continue each day of the week on a 24 hour basis.

Pilots are urged to exercise caution when flying in the vicinity of the route shown.



R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



Government of
Publications
Restricted Airspace

9/68
1st March

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Snow Time 68-5-W will take place over Western Canada between 0600 hours and 1130 hours Greenwich Mean Time April 12, 1968.

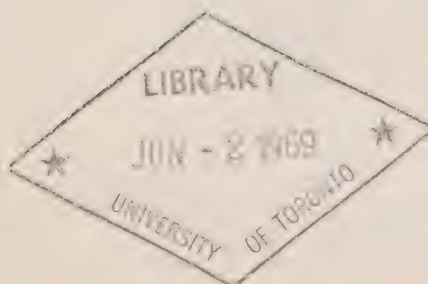
Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

between flight level 190 and flight level 440
between 0600 hours and 1130 hours Greenwich
Mean Time on April 12, 1968.

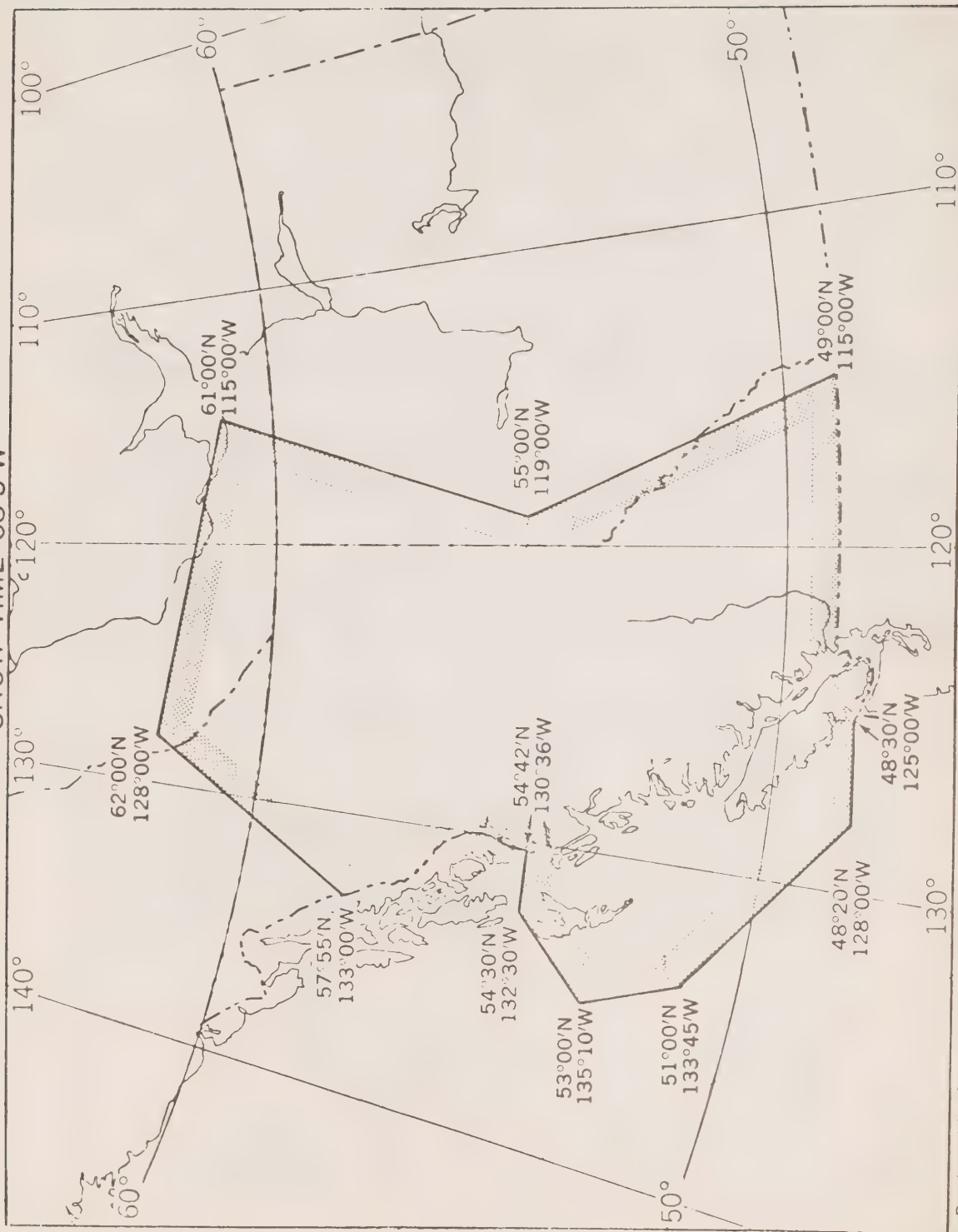
below flight level 190 between 0800 hours and
1130 hours Greenwich Mean Time on April 12, 1968.

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R. W. Goodwin,
Director, Civil Aviation.

SNOW TIME 68-5-W



Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

NOTAM



Publications
Airspace Characteristics

10/68
4th March

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

CANADIAN AIRSPACE CHARACTERISTICS

EDMONTON UPPER FLIGHT INFORMATION REGION (Amending NOTAM 25/67)

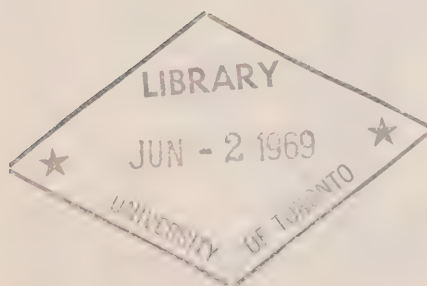
Effective March 28th, 1968, the Goose Upper Flight Information Region is redesignated the Edmonton Upper Flight Information Region. As a result the Item entitled Goose Upper Flight Information Region on page 7 of NOTAM 25/67 is to be deleted. It is superseded by the following:

EDMONTON UPPER FLIGHT INFORMATION REGION

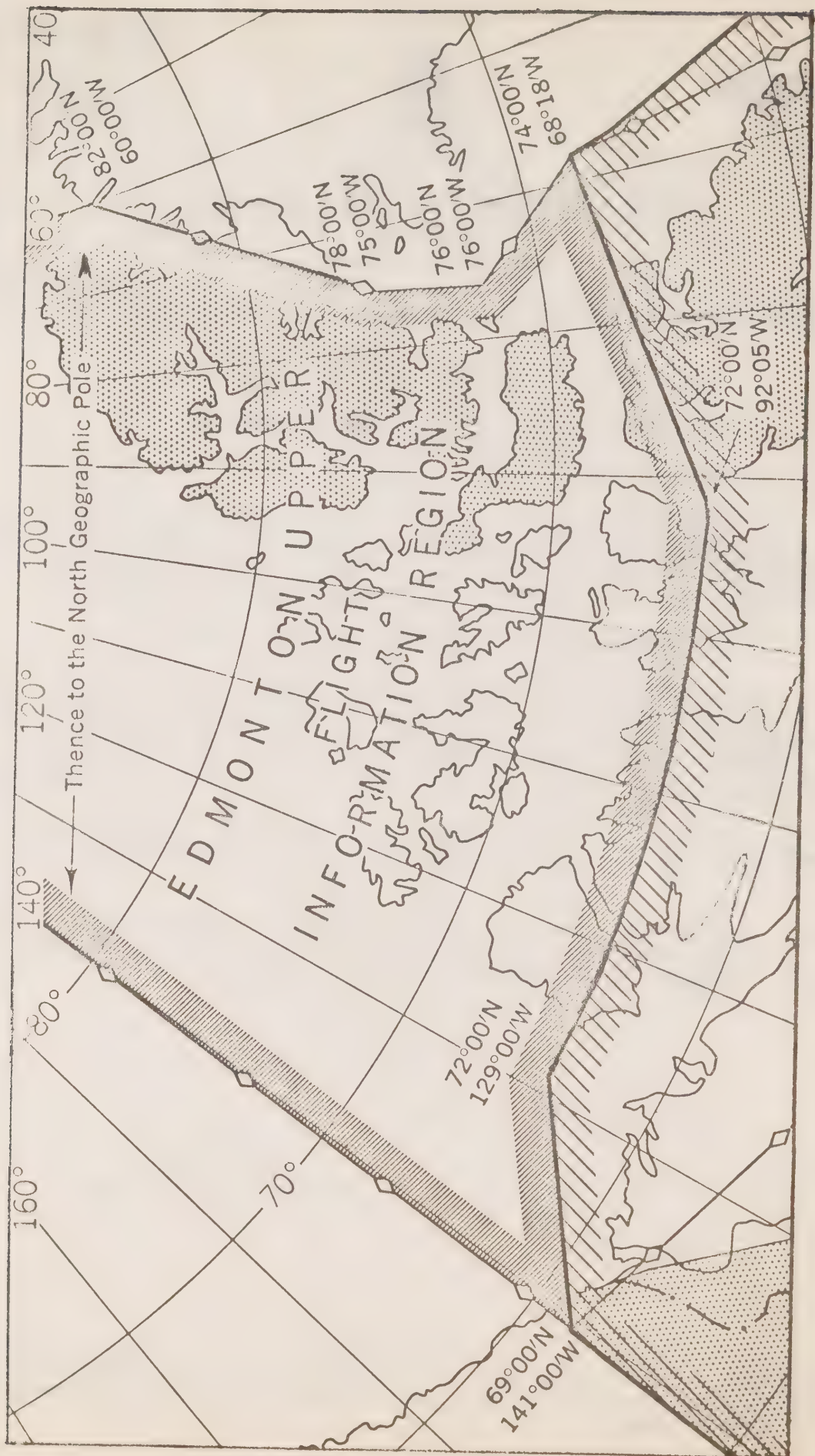
The Edmonton Upper Flight Information Region (UIR) is designated as that airspace above Flight Level 230 within the area bounded by a line commencing at the North Pole; thence to 69°W, 141°W; to 72°N, 129°W; to 72°N, 92°05'W; to 74°N, 68°18'W; to 76°N, 76°W; to 78°N, 75°W; to 82°N, 60°W; to the point of beginning, and is depicted on the accompanying chart.

Flight Information Service is provided from the Edmonton Area Control Centre to all aircraft operating within the Edmonton UIR.

NOTE: On the chart on page 5 of NOTAM 25/67, the "Goose Upper Flight Information Region" should be amended to read the "Edmonton Upper Flight Information Region".



R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Government
Publication
Air Traffic Control

11/68
5th March

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

AIR TRAFFIC CONTROL PROCEDURES
SPECIAL PROCEDURES

EDMONTON UPPER FLIGHT INFORMATION REGION
(Amending NOTAM 4/67)

Deletions:

Page 27 of NOTAM 4/67 is to be deleted in its entirety. It is superseded by the information contained in this NOTAM, and is to become effective March 28th, 1968.

R. W. Goodwin,
Director, Civil Aviation.



SPECIAL PROCEDURES

EDMONTON UPPER FLIGHT INFORMATION REGION

The Edmonton Upper Flight Information Region (UIR) is designated as that airspace described in the NOTAM entitled "Canadian Airspace Characteristics".

Flight Information Service is provided from the Edmonton Area Control Centre to all aircraft operating within the Edmonton UIR.

Within the Edmonton UIR, altimeters shall be set to Standard Pressure (29.92 inches of mercury or 1013.2 mbs.) and flight levels flown in accordance with the following table:

<u>True Track</u>	<u>Flight Levels</u>
Between 000° and 179° incl.	250, 290, 330, 370, 410, 450, etc.
Between 180° and 359° incl.	270, 310, 350, 390, 430, 470, etc.

All flights operating within the Edmonton UIR are requested to comply with the flight planning, reporting and communication procedures described as follows:

Flight Planning

Flight plans should be filed in accordance with ICAO flight planning procedures. The route of flight should be defined by listing, in latitude and longitude:

- (i) the points of entry into and exit from the UIR; and
- (ii) sufficient additional points to adequately portray the intended track, including, where the duration of flight within the area is estimated to exceed one hour, a point at a position approximately midway through the UIR.

Position Reporting

Position reports should be made at the following locations in accordance with ICAO AIREP format (including Section 3):

- (i) for flights North of 85° North latitude the points of entry into and exit from the UIR;
- (ii) flights whose track is predominantly North or South (315° true clockwise through 045° true or the reciprocals) over fixed reporting lines coincident with each 5° of latitude North or South of and including 80° North latitude;
- (iii) flights whose track is predominantly East or West (046° true through 134° true or the reciprocals) and operating at or South of the 85° North latitude the points of entry into and exit from the UIR and over fixed reporting lines coincident with 90° and 120° West longitude; and
- (iv) at such other points as may be considered desirable by the pilot or requested by ATC.

Special Report

A special report should be made whenever a change is made in flight level or route last notified to ATC.

Air/Ground Communications

The Resolute Aeradio Station is the primary air/ground communication station serving the Edmonton UIR. Communication should be established with Resolute on the appropriate published frequency on entry into the area and a listening watch on this station maintained while in the area. If communication cannot be established with Resolute, position reports and special reports should be made to Frobisher, Edmonton, or other International Stations within the area adjacent to the Edmonton UIR, on published frequencies.

NORTH ATLANTIC OCEANIC CONTROL PROCEDURES

Flight Planning Procedures for Westbound North Atlantic Non-Stop Flights

Pilots of potential non-stop westbound flights may flight plan to any suitable aeronautical radio facility or designated intersection east of 70°00'W, and in addition, specify route and altitude to any of the approved Regular or Alternate aerodromes listed in the current DOT Information Circular on "USE OF AERODROMES BY AIRCRAFT ENGAGED IN INTERNATIONAL AIR CARRIER OPERATIONS" for use as the flight planned alternate.

NOTAM



Government
Publication
Restricted Airspace

12/68
15th March

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Top Rung 68-2-W will take place over Western Canada between 0500 hours and 1030 hours Greenwich Mean Time May 10, 1968.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

between flight level 190 and flight level 440
between 0500 hours and 1030 hours Greenwich
Mean Time May 10, 1968.

Below flight level 190 between 0700 hours and
1030 hours Greenwich Mean Time on May 10, 1968.

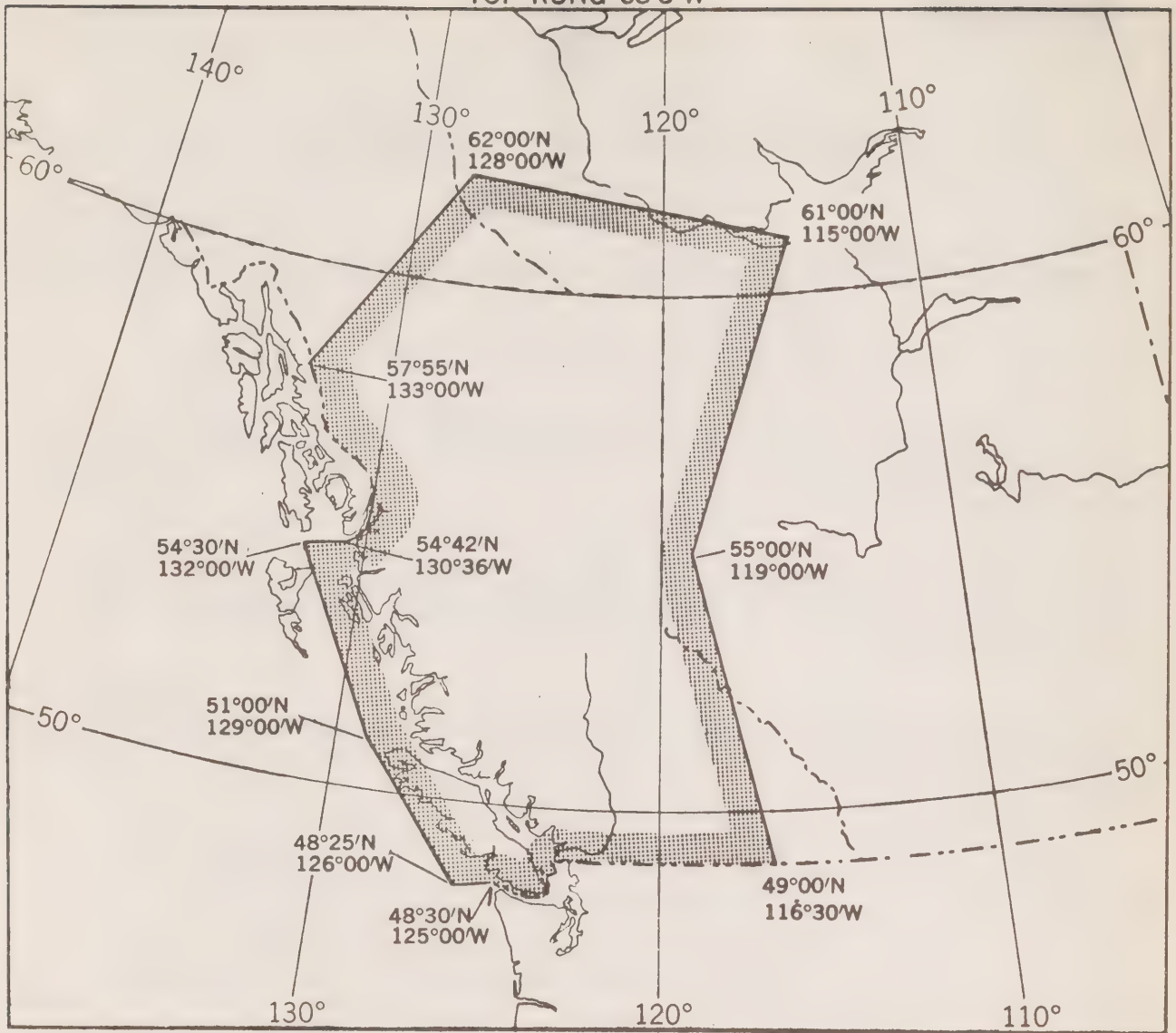
A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R.W. Goodwin,
Director, Civil Aviation.

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TOP RUNG 68-3-W



Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

NOTAM



13/68

1st April

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DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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						12/68

HAZARDS TO AIP NAVIGATION

18/66 Hazards to Air Navigation
6/67 Hazards to Air Navigation - Military Flying Activity - North America (Area Flk) (Amends 18/66)
7/67 Hazards to Air Navigation - Danger Areas - Strait of Georgia, B.C. (Supplements 18/66)
22/67 Hazards to Air Navigation (Amends and Supplements 18/66)
28/67 Hazards to Air Navigation (Supplements 18/66)
4/68 Hazards to Air Navigation (Amends and Supplements 18/66)
8/68 Hazards to Air Navigation (Supplements 18/66)

LAND AERODROMES

21/66 Special Procedures and Facilities
5/67 Special Procedures and Facilities (Amends 21/66)
16/67 Special Procedures and Facilities (Supplements 21/66)
18/67 Restricted Use of DND Aerodrome Puntzi Mountain, B.C. (Supplements 21/66)
19/67 Noise Abatement Procedures - Montreal and Toronto International Airports (Amends 21/66)
23/67 Special Procedures and Facilities (Amends and Supplements 21/66)

WATER AERODROMES

24/67 Special Procedures and Facilities

AIR TRAFFIC CONTROL PROCEDURES

8/66 Area Control Above FL 230
15/66 Special VFR Procedures - Vancouver International Airport
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27/67 Extended Terminal Control Service (Supplements 4/67)
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6/68 Air Traffic Control Holding Procedures (Supplements 4/67)
11/68 Edmonton Upper Flight Information Region (Amends 4/67)

CANADIAN AIRSPACE CHARACTERISTICS

25/67 Canadian Airspace Characteristics
5/68 Canadian Airspace Characteristics - Fraser Canyon VHF Communications Service
9/68 Temporary Restricted Airspace - April 12th, 1968
10/68 Edmonton Upper Flight Information Region (Amends 25/67)
12/68 Temporary Restricted Airspace - May 10th, 1968

R. W. Goodwin
R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



15/68
22nd April

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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HAZARDS TO AIR NAVIGATION

(Superseding NOTAM 18/66, 6/67, 7/67, 22/67,
28/67, and 4/68)

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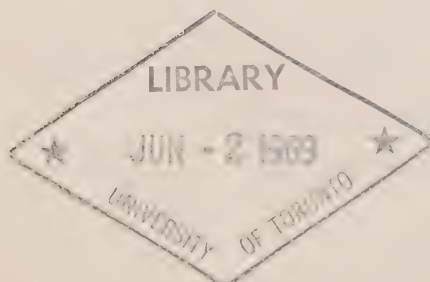
GENERAL HAZARDS

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SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
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SECTION ONE

GENERAL HAZARDS

WARNING TO PILOTS

In the past few years, there has been a noticeable increase in the various kinds of electric transmission line crossings, telephone line crossings, etc., over rivers and lakes in Canada. It is suggested, therefore, that pilots of seaplane and amphibious aircraft, as well as pilots flying at low altitudes in poor weather conditions, use caution when flying along or landing and taking off from unfamiliar waterways.

Companies and concerns constructing such crossings have been requested to mark the towers and poles with alternate bands of international orange and white paint, and to clear the area around the base of these structures, so that they will be more readily visible from the air.

It is possible that some crossings have not been marked, or that some have been marked and are still difficult to see. Consequently, the utmost caution when flying in and around unfamiliar waterways should be exercised. In addition, pilots are advised to use caution whenever flying over unfamiliar terrain at less than 1,500 feet above ground level, in view of the many transmission, radio, T.V. and micro-wave towers being erected across the country.

TALL STRUCTURES IN CANADA 500 FEET OR HIGHER ABOVE GROUND LEVEL

CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

Structures 500 feet or higher above the surrounding terrain which have been brought to our attention are listed separately for each Province. These are considered potentially hazardous to aircraft operations particularly in marginal weather conditions. The Department is unable to guarantee the completeness of this list. Pilots are therefore warned that other such structures may exist.

Extreme caution should be exercised when flying in the vicinity of these structures, particularly in conditions of reduced visibility, and especially so if the pilot is flying over unfamiliar terrain.

MILITARY JET TRAFFIC

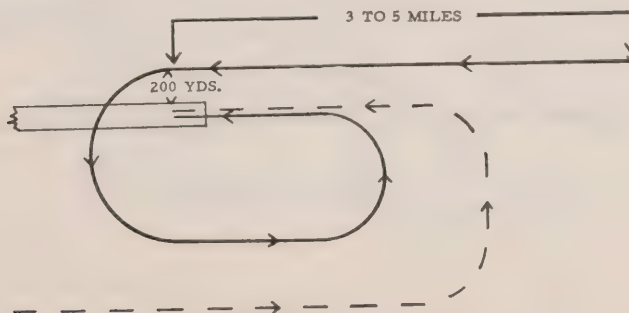
While military jet activity may be encountered in the vicinity of any airport, military jet traffic making high speed arrivals and departures is likely to be encountered frequently at the following airports and a sharp lookout should be maintained.

Comox, B.C.
Cold Lake, Alta.
Portage, Sask.
Rivers, Man.

Gimli, Man.
Lakehead, Ont.
Val d'Or, Que.
Bagotville, Que.

Chatham, N.B.
Goose, Nfld.
Moose Jaw, Sask.

Military jet aircraft do not normally follow the rectangular circuit pattern but perform a "flat break" followed by an abbreviated circuit pattern as illustrated below.

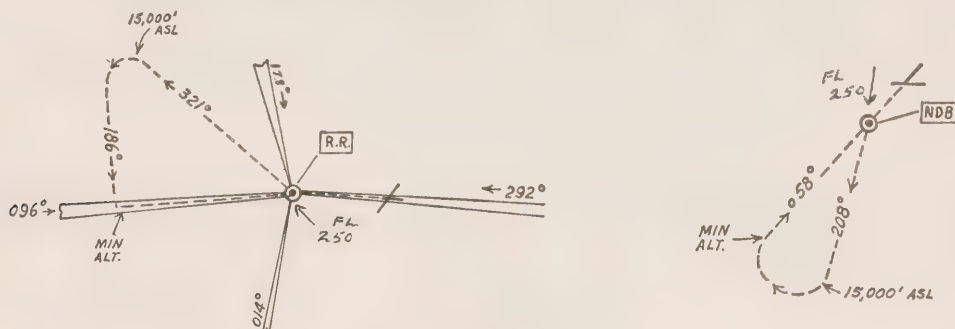


POTENTIAL HAZARD - MILITARY JET APPROACH PROCEDURES

Jet aircraft may be expected to use any aeronautical facility in Canada for the purpose of carrying out an instrument approach procedure. The two basic types of procedures now in effect are as follows:

- (a) The first type of procedure is one in which the jet commences the procedure by crossing the facility being used at Flight Level 200 or Flight Level 250. It then descends out-bound on a heading 45° to the left or right of the desired in-bound track to an altitude of 15,000 feet ASL where a penetration turn is made to intercept the in-bound track at right angles. Descent is continued in the penetration turn and the in-bound track is usually intercepted at minimum altitude. The aircraft then proceeds on the in-bound track to the facility and from the facility to the airport.
- (b) The second type of procedure is one in which the jet commences the procedure by crossing the facility being used at Flight Level 200 or Flight Level 250 and then descends out-bound on a heading 30° to the left or right of the in-bound track to an altitude of 15,000 feet ASL. At this point a penetration turn is made to intercept the in-bound heading at minimum altitude. The aircraft then proceeds to the facility and from the facility to the airport.
- (c) Samples of these procedures are here shown in pictorial form.

While jet aircraft obtain the necessary clearance to commence an approach, it will be apparent that due to the speeds and rates of descent being used a certain amount of hazard will exist to aircraft flying visual in the area where the jet breaks through the cloud base. Therefore, all pilots are cautioned that when flying VFR in the vicinity of an airport they should remain sufficiently below the cloud base to avoid conflict with aircraft making descent through the cloud.



All jet procedures in Canada are based on the use of standard navigational aids such as LF Radio Ranges, NDB's or VOR's. Pilots are urged to maintain a listening watch on the appropriate frequency when flying in the vicinity of any of these facilities and to keep a sharp lookout for jet aircraft performing let-down procedures.

LOW LEVEL FLYING EXERCISES

As a result of changes made in military training syllabi there has been further increase in the number of low-level flying exercises. Heavy military jet traffic at both high and low altitudes may therefore be encountered in the vicinity of the following aerodromes:

Cold Lake, Alberta.

(Extensive military jet traffic at altitudes less than 1000 feet above ground within a 200 nautical mile radius)

Portage la Prairie, Manitoba.

Gimli, Manitoba.

Chatham, N.B.

Moose Jaw, Sask.

MILITARY AIR OPERATIONS AT HIGH ALTITUDES

Civil pilots operating within the Edmonton Upper Flight Information Region may encounter military aircraft flying in a "cell" formation of three aircraft.

In "cell" formation, the aircraft are separated vertically by 500 feet and while the formation will be centred on the proper hemispherical cruising level according to the direction of flight, one aircraft will be 500 feet above this level and one 500 feet below.

The 2,000 feet vertical separation between aircraft on opposing tracks as provided by the Cruising Altitude Order (A.N.O. Series V, No 2) will, in these circumstances, be reduced to 1,500 feet.

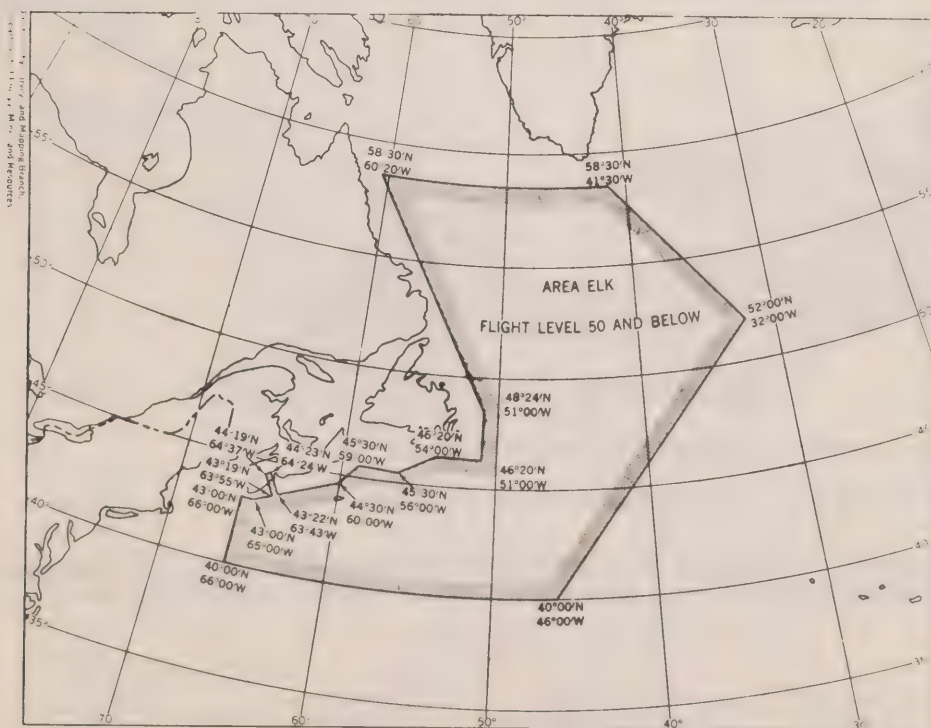
MILITARY FLYING ACTIVITY - NORTH ATLANTIC

The Department of National Defence advises that an area over the North Atlantic is being used extensively as airspace for day and night military air operations.

The area, which is depicted as area Elk, consists of that airspace extending upwards from the surface to Flight Level 50 and encompasses the following area: from 43°00'N, 66°00'W to 43°00'N, 65°00'W to 44°30'N, 60°00'W to 45°30'N, 59°00'W to 45°30'N, 56°00'W to 46°20'N, 54°00'W to 46°20'N, 51°00'W to 48°24'N, 51°00'W to 58°30'N, 60°20'W to 58°30'N, 41°30'W to 52°00'N, 32°00'W to 40°00'N, 46°00'W to 40°00'N, 66°00'W to the point of origin, plus a ten-mile extension from 44°19'N, 64°37'W to 44°23'N, 64°24'W and 43°19'N, 63°55'W to 43°22'N, 63°43'W.

Military aircraft are conducting daily all weather operational flights in the area. These aircraft are required to operate on various headings and altitudes up to and including Flight Level 50 and to make rapid climbs and descents without prior warning. These aircraft, because of operational considerations, operate without navigation and identification lights during the hours of darkness.

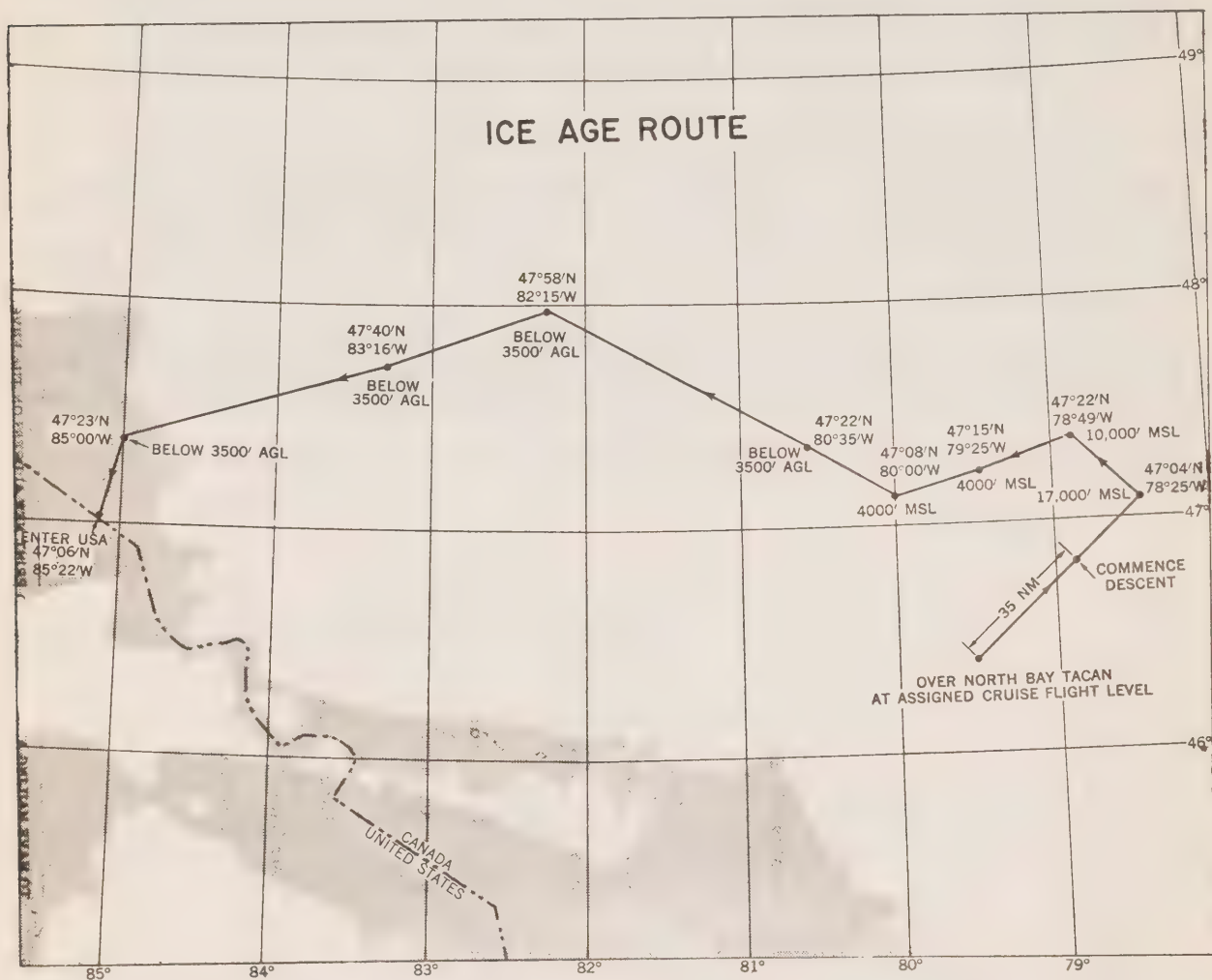
Pilots who propose to fly within this area are advised to file a flight plan before entering the area and to exercise extreme caution when flying within the area.



UNITED STATES AIR FORCE - LOW-LEVEL TRAINING FLIGHTS

United States Air Force low-level training flights over Canada will penetrate Canadian airspace from bases located in the eastern United States and proceed direct to North Bay, Ontario.

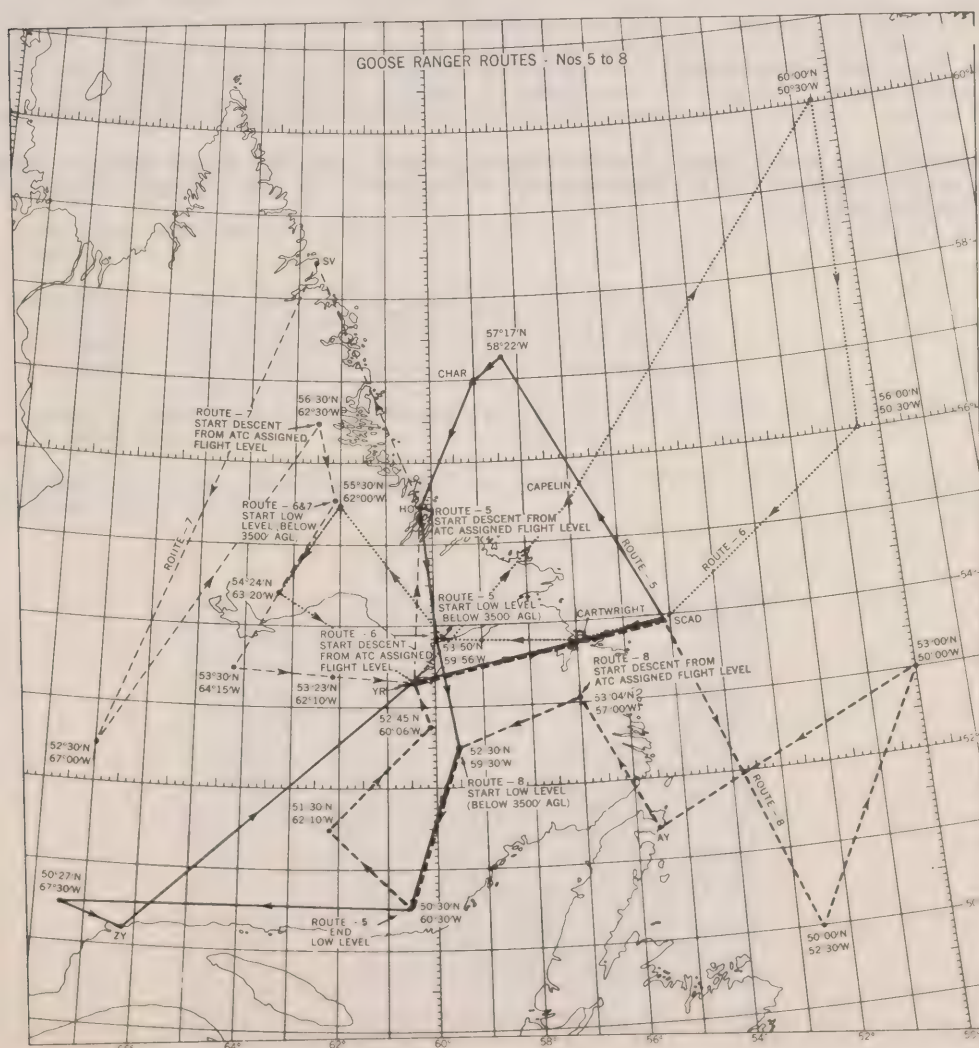
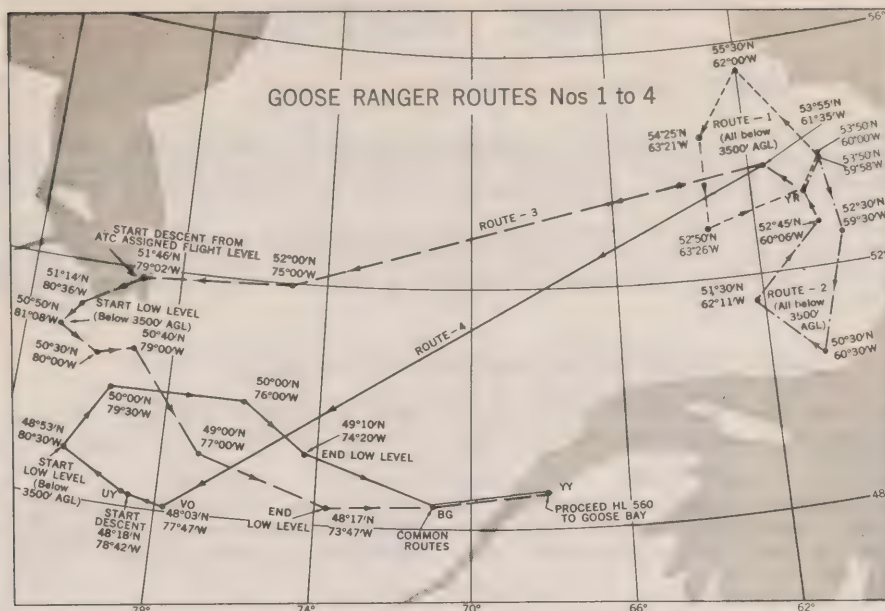
From North Bay these aircraft will follow the route (4 NM either side of the centre line) and be flown at the altitudes shown on the following diagram.



ROYAL AIR FORCE - LOW-LEVEL TRAINING FLIGHTS

The Royal Air Force will make approximately ten low-level training flights a week from Goose, Newfoundland.

Routes (4 NM either side of the centre line) and altitudes to be flown are shown on the following diagrams and all pilots are urged to exercise caution when flying along or crossing these routes.



HAZARDOUS CONDITIONS IN UNCONTROLLED AIRSPACE

Due to extensive military air operations being conducted in uncontrolled airspace under VFR & IFR conditions throughout the whole of Canada, pilots of IFR flights are urged, in the interest of safety, to plan and conduct such flights, insofar as is possible, along controlled airways or air routes.

In many cases, IFR flights have been observed to "cut corners" in the vicinity of the junction of two or more controlled airways. Such practice is in contravention of the Air Regulations, and pilots involved are endangering themselves as well as the lives and property of others. Proven instances of this kind will therefore be dealt with accordingly.

DANGER - COLLISION RISK BETWEEN AIRCRAFT AND BIRDS

A number of incidents occur each year involving birds striking aircraft in flight. In many of these incidents sufficient damage to the aircraft and injuries to persons are caused to classify them as aircraft accidents.

Where flocks or individual birds are observed at a distance, a course should be adopted that will carry the aircraft well clear. Where the birds are not observed in time to take avoiding action, then the crew should duck their heads below the level of the windscreen. Many incidents have occurred where the bird has come right through the windscreen.

Generally large flocks of migratory birds may be expected, at or below 5,000 feet above ground, during the months of April, May, August, September and November. Mass migration of waterfowl usually follow rivers or chains of lakes or sloughs. In autumn such migrations are also associated with high pressure weather systems and they track from northwest to southeast. In spring they follow the flow of warm air from the south. These generalities do not preclude the possibility of encountering large flocks of ducks or geese under other conditions. The risk of encountering migratory birds will of course be greater in the areas detailed in the section "Migratory Birds Protection" of the current Information Circular entitled GENERAL.

In all areas of Canada except coastal British Columbia, the Maritimes and Newfoundland, the risk from migratory birds should be negligible from early December to mid-March. In mild winters the risk may be present in southwestern Ontario.

SECTION TWO

LISTED BY PROVINCES

NEWFOUNDLAND

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Comfort Cove, Nfld.	Decca Tower	49°21'	54°52'	600'	630'
Northern Arm, Nfld.	T.V. Tower	49°11'51"	55°22'05"	650'	1100'
Port Rexton, Nfld.	T.V. Tower	48°26'27"	53°21'25"	550'	1034'
Trepassey, Nfld.	Loran C Antenna	46°46'30"	53°10'30"	1350'	1785'

HAZARDS PENDING PUBLICATION ON CHARTS

Tower erected at 49°56'45"N, 56°11'07"W. Height 347 ft. ASL, not obstruction lighted.

GRAND LAKE, NEWFOUNDLAND - POWER LINE CROSSING

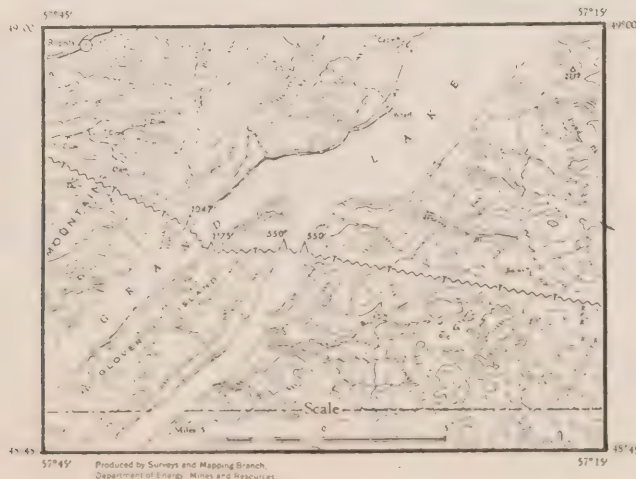
Pilots operating in the vicinity of Grand Lake, Newfoundland, are cautioned to avoid power transmission lines crossing Grand Lake at the north-eastern portion of Glover Island.

The approximate locations and heights of the supporting towers as shown on the sketch below, are as follows:

- A - East shore - Grand Lake: 48°52'N, 57°31'W, 550 feet ASL.
- B - East shore - Glover Island: 48°52'N, 57°32'W, 550 feet ASL.
- C - West shore - Glover Island: 48°52'N, 57°36'W, 1175 feet ASL.
- D - West shore - Grand Lake: 48°53'N, 57°37'W, 1047 feet ASL.

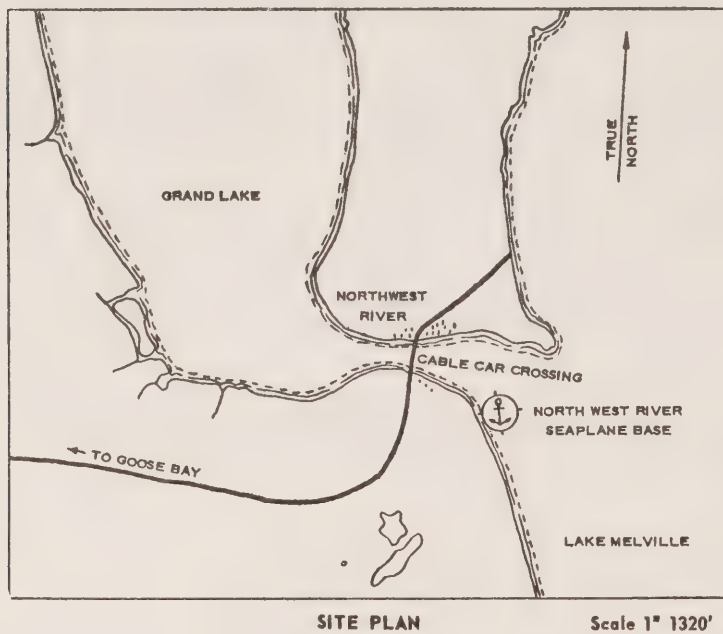
The supporting towers have been obstruction painted, the bases cleared and shore markers installed for added conspicuity.

The maximum sag of the powerlines over water on both sides of the island is 75 feet over high water level which is 305 feet ASL.



NORTH WEST RIVER, NFLD.- CABLE CAR CROSSING

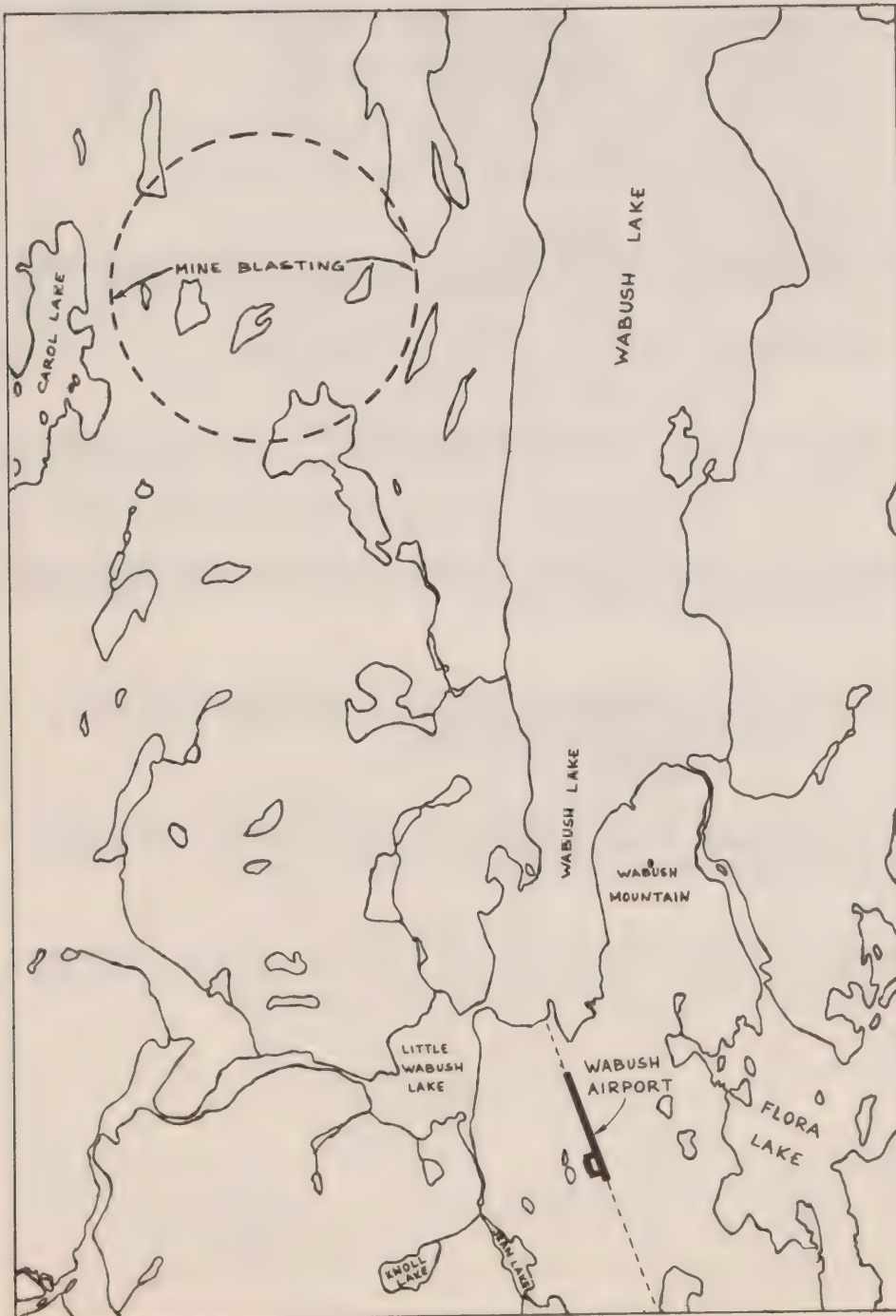
Pilots operating to and from North West River Seaplane Base are hereby cautioned to avoid a cable car crossing at North West River as shown in the sketch below. The supporting towers and the cable are marked with red aviation obstruction lights.



VICINITY WABUSH AIRPORT-MINE BLASTING

Mine blasting is conducted frequently within a 3 mile circle centred at $53^{\circ}03'30''N$, $66^{\circ}56'30''W$, approximately 8 statute miles north northwest of Wabush Airport as shown in the following sketch.

In the interest of safety, caution should be exercised against overflying this area below 5500' ASL (3000' above terrain).



NOVA SCOTIA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT.N.	LONG.W.		
Barneys River, N.S.	CFXU TV Tower	45° 33'	62° 16'	503'	1503'
Giezers Hill, N.S.	CJCH TV Tower	44° 40'	63° 40'	600'	1075'
Halifax, N.S.	CBHT Radio Tower	44° 39'	63° 39'	500'	950'
Newport Corners, N.S.	Navy Tower	44° 58'	63° 59'	550'	756'

HAZARD PENDING PUBLICATION ON CHARTS

TUFTS COVE TO LOWER SACKVILLE-TRANSMISSION LINE

Pilots flying in this area are cautioned that steel towers carrying three aluminium conductor cables and two steel overhead ground wires have been constructed between Tufts Cove and Lower Sackville.

The heights of the structures vary from 104 to 124 feet above ground level.

PARACHUTE JUMPING AREAS

Pilots are cautioned to either avoid the following areas when Parachute Jumping is in progress or to exercise extreme caution when flying in the areas at altitudes where parachutists might be encountered.

CATALOGNE, N.S.

From time to time in the vicinity of Catalogne, N.S. within a circle of two mile radius centered at 46° 00'N, 60° 00'W, descents are made from altitudes not exceeding 7500 feet ASL during daylight hours and are co-ordinated through Sydney Control Tower.

SYDNEY MINES, N.S.

From time to time in the vicinity of Sydney Mines, N.S. within a circle of two mile radius centered at 46° 14'N, 60° 16'W, descents are made from altitudes not exceeding 7500 feet ASL during daylight hours and are co-ordinated through Sydney Control Tower.

STANLEY AIRPORT, N.S.

From time to time in the vicinity of Stanley Airport, N.S. within a circle of two mile radius centered at 45° 06'N, 63° 55'W, (center of airport), descents are made from altitudes not exceeding 7500 feet ASL during daylight hours and are co-ordinated through Halifax Tower.

WATERVILLE AIRPORT, N.S.

From time to time in the vicinity of Waterville Airport, N.S. within a circle of two mile radius centered at 45° 03'N, 64° 39'W, (center of airport), descents are made from altitudes not exceeding 5000 feet ASL during daylight hours and are co-ordinated through Greenwood Tower.

PRINCE EDWARD ISLAND

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Charlottetown, P.E.I.	CFCY TV Tower	46°13'	63°20'	583'	933'

NEW BRUNSWICK

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURES	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Bon Accord, N.B.	CHSJ TV Tower	46°39'	67°36'	546'	2046'
Campbellton, N.B.	CKAM TV Tower	47°27'	66°25'	775'	2835'
Edmundston, N.B.	CJBR TV 1 Tower	47°23'	68°19'	550'	1750'
Grand Falls, N.B.	CHSJ TV Tower	46°59'	67°31'	585'	2435'

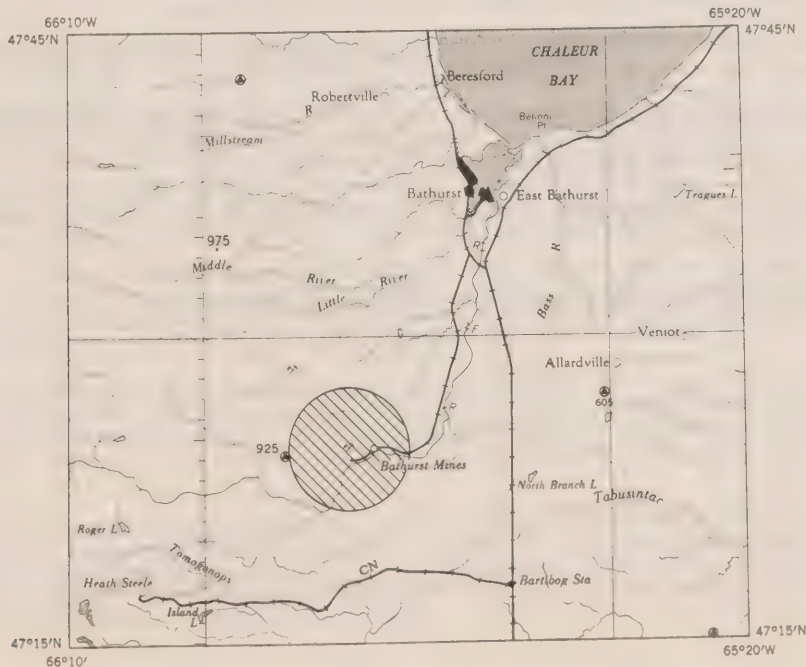
HAZARD TO AIRCRAFT OPERATIONS

BLASTING OPERATIONS

BATHURST MINES, N.B.

Blasting is conducted from time to time in the Brunswick Mining and Smelting complex, 47°24'25"N, 65°49'10"W; approximately 18 miles South-Southwest of Bathurst, N.B.

Pilots are cautioned against flying within a three mile radius of this complex at less than 1,000 feet above terrain. The area is depicted on the accompanying sketch.



QUEBEC

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Havre St.					
Pierre, Que.	Microwave Tower	50°16'15"	63°40'44"	575'	645'
Montreal, Que.	CBF Radio Tower	45°49'	73°18'	596'	622'
Montreal, Que.	CBM Radio Tower	45°26'	73°11'	532'	642'
Rimouski, Que.	CJBR Radio Tower	48°27'	68°35'	504'	604'
Rouyn, Que.	CKRN TV Tower	48°16'	79°03'	730'	1876'
St. Augustin, Que.	Microwave Tower	51°14'12"	58°38'30"	525'	815'
St. Remi, Que.	CJAD Tower	45°15'	73°31'	673'	923'
Temiskaming, Que.	CBFST 1 Tower	46°38'	79°04'	554'	1854'
Trois Rivières, Que.	CKTM TV Tower	46°29'	72°39'	1085'	1660'
Ile D'Orleans, Que.	CBVT TV Tower	46°52'	71°05'	554'	979'

TEMPORARY FLIGHT - TEST AREA

To facilitate and expedite the flight-testing of high performance military aircraft a "Temporary Flight- test Area" within the bounds of the following geographical co-ordinates has been established.

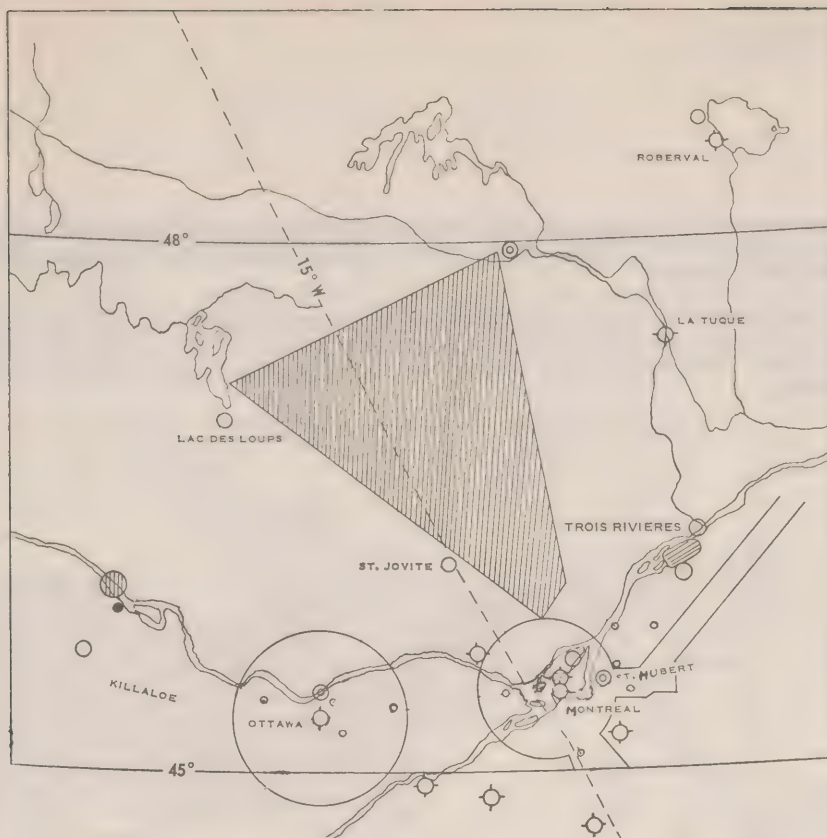
45°53'N	73°52'W
46°02'N	73°42'W
47°56'N	74°06'W
47°22'N	76°25'W

Flight-test programmes in the area will be carried out in accordance with the following:

- They will be limited to daylight hours only.
- They will be conducted in VFR weather only.
- They may occupy airspace from the surface to unlimited altitudes.
- Supersonic flights will not be made at altitudes of less than Flight Level 300 and will be limited to the northern extremities of the area only.
- Flights at a low altitude will be limited to a selected area within the larger area.
- All flights will be monitored by GCI radar at all times.

In view of the nature of the operations which will be carried out in this area, all operators and pilots are advised that extreme caution should be exercised when flying within the area during daylight hours.

The area is shown in the following sketch and on relevant maps and charts.



HAZARDS TO AIRCRAFT OPERATIONS

HIGHWATER, QUE.

All operators and pilots are notified that firings of aeroballistic vehicles will take place in the vicinity of Highwater, Quebec, intermittently throughout the year.

Dependent on the characteristics of each vehicle, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 15 minutes from the time of launch. The point of launching and the point of impact will lie within the following area:- from 45° 00' 30" N, 72° 27' 36" W, thence westerly along the Canadian/U.S. boundary to 45° 00' 27" N, 72° 33' W, thence to 45° 01' 44" N, 72° 33' W, thence to 45° 01' 44" N, 72° 27' 36" W, thence to point of beginning.

Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the area during the operations in question and all practicable safety precautions will be taken. No vehicle will be launched if it is known that any aircraft is likely to be in such a position that either the trajectory or impact could occasion a hazard.

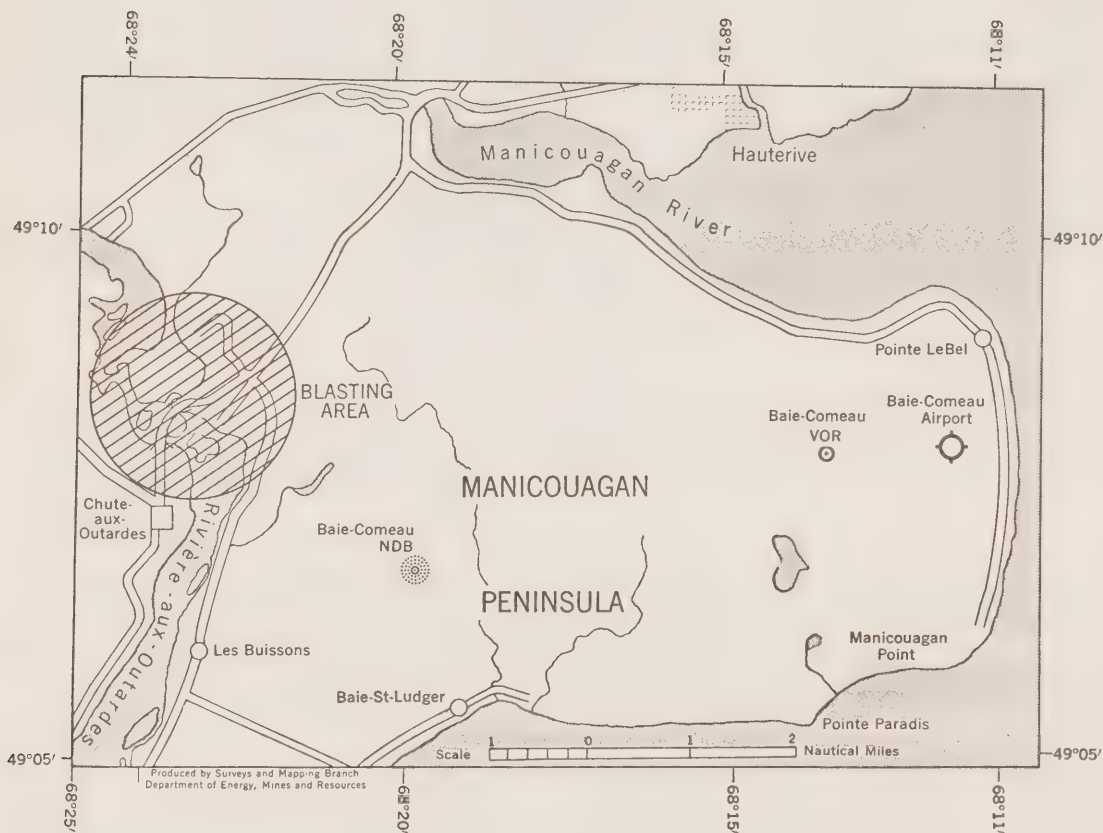
A Class One NOTAM will be issued approximately 24 hours in advance of each launch. The airspace associated with the area designated will be released as soon as possible after impact is confirmed or if the time of launch is delayed for an appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the area.

In view of the limited duration of each vehicle flight and the safety precautions which will be adopted, it is considered unnecessary for the area to be designated as a Danger Area. Operators and pilots should watch for Class One NOTAM pertaining to vehicle launches, and, before traversing any part of the airspace over the area described above, pilots should communicate with Montreal Air Traffic Control Centre, either directly or via the normal communications network.

BAIE COMEAU

Excavation blasting is conducted Mondays to Fridays inclusive at $49^{\circ}08'30''N$, $68^{\circ}23'23''W$, approximately 8 miles West of Baie Comeau airport and 3 miles Northwest of Baie Comeau NDB as shown on the accompanying sketch.

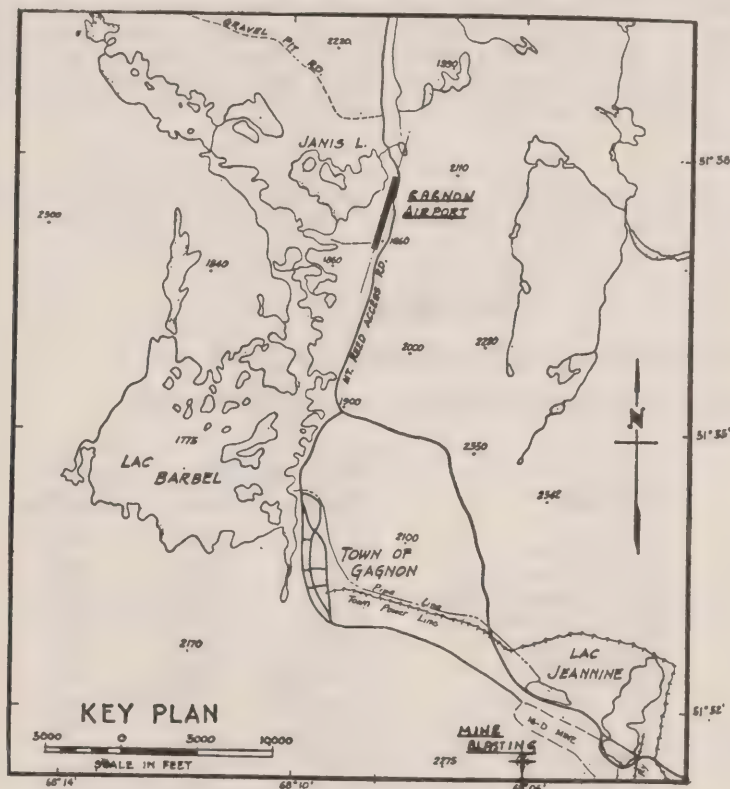
All aircraft are advised to remain clear of the area within a one mile radius of the site and to a height of at least 4000 feet ASL during the period from 2200Hrs. GMT to 2300 Hrs. GMT or as published in Class I NOTAM. Upon request Baie Comeau Tower will provide Flight Advisory Service during its hours of operation.



GAGNON, QUE.

Mine blasting is conducted daily at $51^{\circ}51'29''N$, $68^{\circ}06'00''W$, approximately 6.5 statute miles south of Gagnon Airport, as shown in the following sketch.

In the interest of safety, caution should be exercised against overflying this location below 5000 feet ASL (300 feet above terrain) within a one mile radius.



SHAWVILLE, QUE.

Blasting is likely to occur at any time between 1300 GMT and 2200 GMT, daily at the Hilton Mine, $45^{\circ}30'N$; $76^{\circ}18'W$, approximately ten miles southeast of Shawville, Que.

Pilots are cautioned against flying within a three mile radius of this mine at less than 1,000 feet above terrain.

RESTRICTED AREA - LAKE ST. PETER, QUE.

Pilots are reminded that continuous testing of small arms, artillery and rocket ammunition takes place in the Lake St. Peter Restricted Area, map reference CYR 606, and prior permission must be obtained from the Inspection Services Proving Establishment at Nicolet, Que., before overflying this area.

This Restricted Area is located seven miles south of the Trois Rivières Airport ($46^{\circ}21'N$, $72^{\circ}41'W$) and pilots approaching to land or operating in the vicinity of this airport are cautioned to remain well clear of Lake St. Peter.

PARACHUTE JUMPING AREAS

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

ST. ANTOINE DES LAURENTIDES, QUE.

From time to time, within that part of the Montreal Terminal Control Area located within a two mile radius of St. Antoine des Laurentides Aerodrome (45°44'48"N, 73°58'15"W), descents are made from altitudes not exceeding 6000 feet ASL during daylight hours.

ST. MARIE AERODROME, QUE.

From time to time, at St. Marie Aerodrome within a three mile radius of the aerodrome (45°46'34"N, 74°04'30"W), descents are made from altitudes not exceeding 6000 feet ASL during daylight hours.

SWEETSBURG AIRPORT, QUE.

From time to time, at Sweetzburg Airport within a three mile radius of the airport (45°12'N, 72°40'W), descents are made from altitudes not exceeding 9500 feet ASL during daylight hours.

ONTARIO

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS.

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Agincourt, Ont.	CFTO TV Tower	43°47'	79°16'	890'	1440'
Barrie, Ont.	CKVR TV Tower	44°21'	79°42'	704'	1704'
Clarkson, Ont.	Brick Company Chimney	43°29'	79°37'	556'	833'
Copper Cliff, Ont.	Smelter Chimney	46°29'	81°03'	554'	1505'
Cornwall, Ont.	CJSS TV Tower	45°11'	74°32'	700'	900'
Dryden, Ont.	CBWAT 1 Tower	49°46'	92°41'	531'	1845'
Fort Frances, Ont.	CBWAT 3 Tower	48°49'	93°53'	602'	1942'
Geraldton, Ont.	CBLAT TV Tower	49°42'47"	86°46'40"	595'	1745'
Hamilton, Ont.	CHCH TV Tower	43°12'	79°46'	1093'	1718'
Hazeldean (Ottawa) Ont.	CJOH TV Tower	45°18'	75°53'	579'	993'
Hearst, Ont.	TV Tower	49°39'	93°31'	503'	1403'
Kingston, Ont.	CKWS TV Tower	44°10'	76°26'	826'	1151'
Kitchener, Ont.	CKCO TV Tower	43°24'	80°38'	655'	2090'
London, Ont.	CFPL TV Tower	42°57'	81°16'	980'	1894'
London, Ont.	CATV TV Tower	42°56'	81°21'	515'	1440'
Manitouwadge, Ont.	TV Tower	49°08'21"	85°49'23"	589'	2019'
Ottawa, Ont.	CBOT TV Tower	45°24'	75°45'	501'	701'
Pembroke, Ont.	TV Tower	45°50'	77°10'	580'	1042'
Peterborough, Ont.	CHEX TV Tower	44°20'	78°18'	800'	1800'
Port Arthur, Ont.	CFCJ TV Tower	48°31'	89°07'	707'	2307'
Sarnia, Ont.	Chimney	42°47'48"	82°28'06"	550'	1135'
Sturgeon Falls, Ont.	CBFST TV Tower	46°25'	79°56'	537'	1387'
Sudbury, Ont.	CKSO TV Tower	46°30'02"	81°01'16"	993'	2024'
Timmins, Ont.	CBOFT TV Tower	48°28'	81°17'	555'	1689'
Timmins, Ont.	CFCL TV Tower	48°29'	81°20'	528'	1560'
Toronto, Ont.	Office Bldg.	43°39'	79°23'	746'	1009'
Toronto, Ont.	CJBC Radio Tower	43°34'	79°49'	647'	1326'
Toronto, Ont.	CBLT TV Tower	43°40'	79°23'	500'	844'
Windsor, Ont.	CKLW TV Tower	42°19'	83°03'	650'	1250'
Wingham, Ont.	CKNX TV Tower	44°05'	81°12'	650'	1800'

HAZARDS TO AIRCRAFT OPERATIONS

SUDBURY, ONT.

Open-mine blasting is conducted daily at 46°51'N, 81°02'W; approximately 19 statute miles northwest of Sudbury Airport, as shown in the following sketch.

In the interest of safety, pilots operating in accordance with the Visual Flight Rules should exercise caution against overflying this location below 4000 feet ASL (3000 feet above terrain) within a three mile radius.

Pilots operating in accordance with the Instrument Flight Rules on Blue Airway 10 between the Sudbury NDB and the Welcome Intersection and on Victor Airway 5 between the Sudbury VOR and the area in the vicinity of Welcome Intersection will not receive ATC clearance to fly below 4000 feet ASL while blasting is in progress.



Produced by Survey and Mapping Branch,
Department of Energy Mines and Resources

TORONTO ISLAND AIRPORT - ONT.

A recent estimate has placed the bird population in the vicinity of Toronto Island Airport at approximately 5000 gulls and 5000 terns. This heavy concentration of birds constitutes a potential hazard to aircraft operations, particularly turbine powered aircraft. Pilots using this airport are advised to exercise caution.

TIMAGAMI, ONT.

Blasting operations are conducted on a continuous unscheduled basis at 47°04'N, 75°50'W, approximately 3 statute miles west of Timagami, Ontario. In the interest of safety, Pilots are cautioned against flying over this area at less than 1500 feet above ground.

TIMMINS, ONT.

Open-mine blasting is conducted daily at the Texas Gulf open-pit property approximately 8 miles due north of Timmins Airport. Aircraft should refrain from flying low in this area.

WAWA, ONT.

Blasting operations are conducted on a continuous unscheduled basis, approximately 7½ NM north of Wawa, within a circle of 4 NM radius centred at 48°08'N, 84°43'W. Flights below 4,800 feet ASL may be hazardous to aircraft.

PARACHUTE JUMPING AREAS

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

STROUD, ONT.

From time to time at 44°21'N, 79°39'W, approximately 2 miles northeast of Stroud, Ont., descents are made from altitudes not exceeding 7500 feet ASL during daylight hours. When parachute jumping is in progress a large cross or X will be displayed on the field.

WATERLOO-WELLINGTON (KITCHENER) ONT.

From time to time, at Waterloo-Wellington Airport within a drop-area located 3 NM northeast of the airport (43°27'N, 80°23'W), descents are made from altitudes not exceeding 9000 feet ASL, during daylight hours.

BALDWIN (NEAR SUTTON) ONT.

Several parachute clubs are established in the vicinity of Baldwin Airport and a considerable amount of parachute jumping takes place in this area, off airways, during daylight hours only, from 3000 feet and 7500 feet ASL. Descents take place in a rectangular area enclosed by a line beginning at Jackson's Point and extending due south for 8 miles, thence due east for 4 miles, thence due north for 8 miles, thence due west to the point of beginning.

MANITOBA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL

CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT	HEIGHT ABOVE
		LAT. N.	LONG. W.	ABOVE GRADE	SEA LEVEL
Baldy Mountain, Man.	CKOS TV 1 Tower	51° 28'	100° 43'	572'	3297'
Brandon, Man.	CKX TV Tower	49° 50'	99° 59'	606'	1909'
Fisher Branch, Man.	TV Tower	51° 04' 50"	97° 38' 55"	598'	1418'
St. Norbert, Man.	CFMW FM Tower	49° 45'	97° 09'	555'	1319'
Ste. Agathe, Man.	CJAY TV Tower	49° 35'	97° 10'	1000'	1775'
Steinbach, Man.	Communications Relay Tower	49° 31'	96° 40'	550'	1430'
Thomson City, Man.	Smelter Chimney	55° 43'	97° 52'	500'	1206'
Carman, Man.	CBW Radio Tower	49° 31'	97° 58'	570'	1430'
Winnipeg, Man.	CBC TV Tower	49° 46'	97° 31'	1064'	1849'

PARACHUTE JUMPING AREAS

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in the areas at altitudes where parachutists might be encountered.

CLANDEBOYE, MAN.

From time to time in the vicinity of Clandeboye, Man., within a circle of two mile radius centred at 50° 14' N, 96° 55' W, descents are made from altitudes not exceeding 9500 feet ASL during daylight hours.

RIVERS, MAN.

Live and heavy parachute dropping exercises are carried out intermittently day and night in the Rivers Control Zone from an altitude of 3000 feet ASL and below.

CANADIAN FORCES BASE SHILO, MAN.

Intermittent military parachuting is conducted in the Western portion of Shilo Danger area CYD 402 within a three mile radius centred on 49° 45' N, 99° 38' W, from an altitude of 5000 feet ASL. Pilots are cautioned to remain well clear of this area when jumps are in progress. A Class I Series A NOTAM will be issued by Rivers Tower when this Drop Zone is active.

ROCKET LAUNCHES FROM CHURCHILL

All operators and pilots are notified that test-firings of rocket propelled vehicles will take place from the vicinity of Churchill, Manitoba, intermittently throughout the year, with the main activity confined to the period November 1st to July 15th annually.

Dependent on the characteristics of each missile, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 30 minutes from the time of launch. The point of impact will lie within one of the following areas:

- Area "A" Is delineated by a line commencing at a point 58°56'N, 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence due East to the coast and beyond to a point on the sea expanse off Anabusko Islands 57°23'N, 90°15'W; thence to 57°20'N, 90°00'W; thence to 59°46'30"N, 90°00'W; thence to the point of beginning.
- Area "B" Is delineated by a line commencing at a point 58°56'N 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence due East to the coast and beyond to a point in the sea expanse off Anabusko Islands 57°23'N, 90°15'W; thence to 55°28'N, 82°00'W; thence due North to 61°27'N, 82°00'W; thence to 58°56'N, 93°10'W; thence to the point of beginning.
- Area "C" Is delineated by a line commencing at a point 58°56'N, 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence due East to the coast and beyond to 57°20'N, 91°08'W; thence to 55°13'N, 82°30'W; thence to 55°28'N, 82°00'W; thence to 58°55'N, 78°28'W; thence due North to 63°15'N, 78°28'W; thence due West to 63°15'N, 90°00'W; thence to the point of beginning.

At this time, the majority of the rockets it is planned to launch will return to the surface at a point within Area "A", but the trajectory of some types will terminate in Area "B". On a comparatively few occasions, the point of impact will lie within Area "C". It should be noted that Area "B" contains Area "A", while Area "C" contains both "A" and "B". Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the areas during the operations in question and all practicable safety precautions will be taken. No rocket will be launched if it is known that any aircraft or ship is likely to be in such a position that either the trajectory or impact could occasion a hazard.

A Class One NOTAM will be issued approximately 24 hours in advance of each launch and will indicate the area within which the predicted point of impact lies. The airspace associated with the area designated will be released as soon as possible after impact is confirmed, or if the time of launch is delayed for an appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the Hudson Bay region.

In view of the limited duration of each rocket flight and the safety precautions which will be adopted, it is considered unnecessary for the Areas to be designated as Danger Areas. Operators and pilots should watch for Class One NOTAM pertaining to rocket launches, and, before traversing any part of the airspace over the areas described above, pilots should communicate with Churchill Radio or Winnipeg Air Traffic Control Centre, either directly or via the normal communications network.

SASKATCHEWAN

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Carlyle Lake, Sask.	CKOS TV 2 Tower	49°44'	102°17'	736'	3261'
Colgate, Sask.	CKCK TV 1 Tower	49°26'	103°48'	581'	2506'
Green Water Lake, Sask.	CKBI TV 3 Tower	52°28'	103°30'	531'	2652'
Marquis, Sask.	CKCK TV 3 Tower	50°39'	105°46'	810'	2785'
Moose Jaw, Sask.	CHAB TV Tower	50°23'	105°56'	580'	2980'
Prince Albert, Sask.	CKBI TV Tower	53°03'	105°51'	584'	2334'
Regina, Sask.	CKCK TV Tower	50°27'	104°30'	670'	2570'
Regina, Sask.	CHRE TV Tower	50°29'	104°30'	736'	2693'
Saskatoon, Sask.	CFQC TV Tower	52°11'	106°23'	650'	2610'
Stranraer, Sask.	CFQC TV 1 Tower	51°41'	108°31'	570'	3123'
Wellowbunch, Sask.	CKCK TV 2 Tower	49°21'	105°38'	677'	3577'
Weyburn, Sask.	COAX TV Tower	49°39'	103°51'	970'	2885'
Wynyard, Sask.	CKOS TV 3 Tower	51°42'	104°18'	531'	2556'
Yorkton, Sask.	CKOS TV Tower	51°12'	102°44'	554'	2304'

ALBERTA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
		LAT. N.	LONG. W.		
Ashmont, Alta.	CFRN TV Tower	54°08'	111°36'	628'	2754'
Athabasca, Alta.	CBXT TV 1 Tower	54°46'	113°20'	530'	2455'
Bonnyville, Alta.	CHSA TV 2 Tower	54°12'	110°50'	579'	2554'
Calgary, Alta.	CHCT TV Tower	51°04'	114°16'	668'	4843'
Calgary, Alta.	CFCN TV Tower	51°04'	114°10'	517'	4440'
Calgary, Alta.	Restaurant Tower	51°02'39"	114°03'43"	613'	4051'
Drumheller, Alta.	CFCN TV 1 Tower	51°34'	112°20'	579'	4079'
Edmonton, Alta.	CBXT TV Tower	53°31'	113°17'	680'	3080'
Grand Prairie, Alta.	CBXAT TV Tower	55°29'	118°45'	542'	3608'
Lethbridge, Alta.	CJLH TV Tower	49°43'	112°48'	630'	3650'
Lloydminster, Alta.	CHSA TV Tower	53°24'	110°01'	671'	2821'
Pivot, Alta.	CHAT TV 1 Tower	50°24'	110°03'	529'	3255'

PARACHUTE JUMPING AREAS

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

CARSELAND, ALTA.

From time to time, at Barlow's Airstrip located approximately 3 miles north of Carseland, Alta. (50°53'45"N, 113°27'28"W), descents are made from a maximum altitude of 15,000 feet ASL and are co-ordinated through Calgary Terminal Control Unit. "Voice Advisories" are issued whenever necessary.

NAMAO, ALTA.

Daily, at Plumley Farm, 53°42'N, 113°20'W, approximately 5½ miles East Northeast of Namao Airport, descents may be made from altitudes not exceeding 15,000 feet ASL during daylight hours. Descents are co-ordinated through Namao Tower.

WESTLOCK, ALTA.

From time to time in the vicinity of the Westlock Airport, Alberta, located at 54°10'N, 113°52'W, parachute jumps are made from a maximum height of 15,000 feet ASL to a target landing area within the confines of the airport.

BRITISH COLUMBIA

TRANSMISSION LINE CROSSINGS

This does not cover all cable crossings but only the more hazardous crossings on the West Coast. Pilots should take appropriate precautions when flying in the vicinity of these crossings.

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS OBSTRUCTION PAINTED	SHORE MARKERS	CONDUCTORS OR CABLES MARKED
Agamemnon Channel	49°44'55"N, 124°02'30"W.	6305'	650'	125'	X	X	X
Alice Arm Nass River	55°22'N, 129°02'W.	2500'	452'	30'	X		X
Bamfield Inlet	48°50'N, 125°08'W.	500'	81'	70'	X		X
Barnett	49°17'30"N, 122°55'00"W.	2868'	334'	160'	X		X
Barnett	(note - two crossings at Barnett separated by $\frac{1}{2}$ mile) 49°17'30"N, 122°54'30"W.	3268'	540'	160'	X		X
Boston Bar	49°52'N, 121°27'W.	1019'	400'	100'	X		X
Bridge River	50°47'10"N, 122°13'55"W.	1964'	2424'	38'	X		X
Bridge River Kelly Lake	50°46'N, 121°53'W.	2235'	1022'	110'			markings undetermined
Clinton	51°05'N, 121°36'W.	1700'	3400'	300'	X		X
Columbia River	51°25'14"N, 118°27'30"W.	1000'	78'	50'	X		X
Cottonwood River	50°09'N, 122°23'W.	6014'	2562'	206'			X
Dodds Narrows	49°08'10"N, 123°49'00"W.	1400'	195'	126'	X	X	X
Finlayson Arm	48°30'05"N, 123°32'40"W.	3450'	830'	240'	X		X
Fraser River	(note - 2 spans in parallel at Finlayson Arm) 50°45'N, 121°56'W.	2201'	1132'	348'	X		crossing at Bridge River
Montague Harbour	48°53'40"N, 123°25'00"W.	8840'	360'	125'			
	(note - crossing consists of three spans in parallel 80' apart over the channel to Montague Harbour, between Parker Island and Galiano Island. South towers are obstruction painted, spherical markers on South Conductor, North towers and conductor unmarked, no shore markers.)						
Harrison River	49°18'10"N, 121°48'30"W.	3694'	900'	560'	X	X	X

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS OBSTRUCTION PAINTED SHORE MARKERS CONDUCTORS OR CABLES MARKED		
Horne Lake	49°21'N, 124°42'W.	5889'	1174'	133'	X		X
	(note - Horne Lake crossing has two spans)						
Indian Arm	49°19'40"N,						
Bedwell Bay	122°55'30"W.	9673'	529'	160'	X		X
Jervis Inlet	49°46'30"N,						
	124°07'30"W.	10,100'	1700'	175'	X	X	X
Kamloops	50°39'30"N,						
	120°02'15"W.	1462'	1208'	35'	X	X	X
	(note - crossing is on Thompson River, two miles east of Kamloops airport)						
Kamloops	50°25'30"N,						
Spence Bridge	121°20'00"W.	1034'	1210'	130'	X		X
Kootenay	49°45'39"N,						
Lake	116°07'30"W.	10,600'	3048'	100'	X		X
Kootenay	49°29'20"N,						
River	117°18'45"W.	3400'	2131'	90'	X		2 miles West X of Nelson
Lower Arrow	49°54'N,						
Lake	118°03'W.	5625'	2635'	116'	X		X
Lytton	50°46'N,						
Fraser River	121°38'W.	2360'	1159'	348'	X		X
Nicola	50°09'45"N,						
Lake	120°38'30"W.	860'	2104'	37'	X		X
	(note- two parallel crossings on Nicola Lake, 1½ miles apart.)						
Nicola	50°09'25"N,						
Lake	120°36'15"W.	1341'	2245'	38'	X		X
Northumberland	49°08'10"N,						
Channel	123°46'40"W.	3000'	300'	90'	X	X	X Gabriola Island
Peace	51°38'N,						
River	118°37'W.	unknown	unknown	20'			X
Pender	49°37'30"N,						
Harbour	124°01'25"W.	805'	170'	115'	X		X
Sansum	48°49'40"N,						
Narrows	123°35'00"W.	6841'	959'	200'	X	X	X
Seton Lake	50°43'N,						
	122°16'W.	4400'	1572'	65'	X	X	X
Seymour	50°07'55"N,						
Narrows	125°21'10"W.	3228'	350'	160'	X		X
Skeena	54°10'40"N,						
River	129°37'10"W.	6000'	100'	30'	X		X
Skeena	54°12'N,						
River	129°55'W.	8000'	150'	35'	X		X

AIRSPACE FOR PROVING RANGE

ESQUIMALT, B.C.

A mortar calibration and proving range has been in intermittent use at Esquimalt, B.C. for some time. However, with the improved characteristics of the equipment used, a need now exists for allocation of airspace to that range, which will be activated by Class I NOTAM for protection of any low flying aircraft in the vicinity.

Airspace is accordingly designated as a DANGER area to a height of 2000 feet for occasional use in the following area:

From the head of Canadian Forces Jetty "F" (48°26'29.5"N, 123°26'45.5"W) on a bearing of 110° for 6.4 cables (approx. 4000 feet) at a width of 1000 feet, centred on the bearing line.

SPECIAL NOTICES

GLACIER NATIONAL PARK - ILLECILLEWAET VALLEY

Pilots are cautioned to avoid flying over the Illecillewaet Valley during winter months as Howitzer type guns will be firing periodically to precipitate snow slides.

PORT HARDY AIRPORT

Pilots are advised that the grass areas adjacent to all runways are unsafe for aircraft traffic and that a gutter 6 inches deep and 36 inches wide runs along the north edge of Runway 10 - 28.

REIFEL ISLAND

Reifel Island (49°06'N, 123°07'W) approximately 5 miles south of Vancouver International Airport is designated a bird sanctuary. Large flocks of birds may be encountered at low altitudes during all months of the year. Pilots are requested to avoid Reifel Island particularly at low altitudes.

PARACHUTE JUMPING AREAS

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise extreme caution when flying in these areas at altitudes where parachutists might be encountered.

CHILLIWACK, B.C.

From time to time, at Chilliwack Airport within a drop area located approximately $4\frac{1}{2}$ miles east of the airport at $49^{\circ}08'30''N$, $121^{\circ}50'30''W$, descents are made from altitudes not exceeding 8000 feet ASL during daylight hours.

ABBOTSFORD, B.C.

Daily from 1600 GMT until dark, descents may be made from 12,500 feet ASL. The jump area is located approximately $5\frac{1}{2}$ miles north of the Abbotsford Airport at $49^{\circ}06'N$, $122^{\circ}20'W$, and is marked by a large orange cross

When parachute jumps are made from above 5000 feet ASL within the Abbotsford Jump Area, the following procedures will apply:

1. Parachute jumps shall be made from aircraft which are equipped with a serviceable coded transponder.
2. The aircraft shall maintain continuous communication with the Vancouver Centre on 119.7 MHz.
3. A VFR flight plan shall be filed at least 30 minutes prior to take-off. The remarks portion of the flight plan shall contain complete details of the exercise including proposed times of the jumps.
4. The Vancouver Centre will advise the pilot when jumping may commence. After a visual check that the area is clear of VFR traffic, the pilot may then permit the parachutists to jump.
5. The aircraft shall remain over the jump area until the parachutists have landed.

PRINCE GEORGE, B.C.

From time to time, within an area located approximately 12 statute miles southwest of the Airport at $53^{\circ}47'N$, $122^{\circ}56'W$, sky-diving descents may be made from altitudes not exceeding 11,000 feet ASL during daylight hours. All descents will be co-ordinated through Prince George Tower.

VERNON, B.C.

Parachute descents may be made from a maximum altitude of 15,000 feet ASL at $50^{\circ}15'N$, $119^{\circ}10'20''W$, approximately $6\frac{1}{2}$ nautical miles East of Vernon Aerodrome, from 1500 Hrs. GMT until dark on Saturdays, Sundays and Holidays.

HAZARDS TO AIRCRAFT OPERATIONS

The following is a list of locations in British Columbia where open-pit mine or quarry blasting operations are conducted. The blasting operations are considered potentially hazardous to aircraft overflying these locations, as flying rock can attain a maximum height of approximately 3,000 feet above ground. The Department of Transport is unable to guarantee the completeness of the list and pilots are therefore warned that other such locations may exist. In addition the locations reported should be accepted by pilots as approximate rather than accurate positions.

In the interest of safety, caution should be exercised against overflying these locations at less than 3,000 feet above ground within a one mile radius.

This list will be amended by NOTAM from time to time as required:

<u>GENERAL AREA</u>	<u>SITE LOCATION</u>	
	<u>LAT. N.</u>	<u>LONG. W.</u>
Fitz Hugh Sound, B.C. (Kooeye River)	51°47'	127°52'
Buttle Lake, B.C.	49°46'	125°20'
Buttle Lake, B.C.	49°42'	127°17'
Texada Island, B.C. (Blubber Bay)	49°47'	124°38'
Texada Island, B.C. (Marble Bay)	49°44'	124°37'
Texada Island, B.C. (Vananda)	49°45'	124°34'
Texada Island, B.C. (Mt. Little Hill)	49°43'	124°35'
Texada Island, B.C. (Welcome Bay)	49°42'	124°35'
Nelson Island (South End)	49°40'	124°06'
Amphitrite Point, B.C.	49°01'	125°28'
Woss Lake, B.C.	50°03'	126°50'
Queen Charlotte Islands, B.C. (Jedway)	52°18'	131°15'
Mt. Mc Dame, B.C.	59°19'	129°47'
Cobble Hill, B.C. (9 miles west of Victoria Airport)	48°41'	123°37'
Saturna Island, B.C. (18 miles NE of Victoria Airport)	48°47'	123°06'
Saltspring Island, B.C.	48°52'	123°29'
Pitt Lake, B.C.	49°19'	122°40'
Benson Lake, B.C. (Merry Widow Mtn.)	50°20'	127°16'
Howe Sound, B.C. (McNab Cr.)	49°34'	123°22'

<u>GENERAL AREA</u>	<u>SITE LOCATION</u>	
	<u>LAT. N.</u>	<u>LONG. W.</u>
Indian Arm, B.C.	49°28'	122°51'
Agassiz, B.C.	49°13'	121°40'
Agassiz, B.C.	49°15'	121°43'
Agassiz, B.C.	49°18'	121°38'
Oliver, B.C.	49°10'	119°37'
Grand Forks, B.C.	49°04'	118°36'
Duck Lake, B.C.	49°17'	116°36'
Kimberley, B.C.	49°44'	116°01'
Cranbrook, B.C.	49°28'	115°32'
Lake Windermere, B.C.	50°30'	115°52'
Brisco, B.C.	50°49'	116°19'
Ashcroft, B.C.	50°30'	120°59'
Merrit, B.C.	50°10'	120°55'
Kennedy Lake, B.C.	49°03'	125°28'
Endako, B.C.	54°05'	125°00'
Mt. Washington, B.C.	49°42'	125°14'
Scud River, B.C.	57°20'	131°53'

NORTHWEST TERRITORIES

HAZARDS PENDING PUBLICATION ON CHARTS

CAMBRIDGE BAY, N.W.T.

Aerial cable crossing Cambridge Bay near RCM Police Detachment (69°07'15"N, 105°01'00"W). Supporting structures and cables are obstruction marked.

FORT NORMAN, N.W.T.

Aerial cable crossing Great Bear River (64°54'45"N, 125°35'30"W). Supporting structures and cables are obstruction marked.

R. W. Goodwin

R.W. Goodwin,
Director, Civil Aviation.

NOTAM



Publications

17/68
1st May

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 1

NEW ICAO FLIGHT PLAN FORM (Supplementing NOTAM 4/67)

A new ICAO flight plan form and related procedures as specified in ICAO Doc. 4444-RAC/501/9 "Rules of the Air and Air Traffic Services", Ninth Edition, 1967, became applicable on a world-wide basis on 8 February, 1968. On 30 January, 1968, a Class One NOTAM was issued stating that, while Canada would not be implementing the new format on 8 February, the new flight plan format would be accepted for flights entering Canadian controlled airspace after that date.

Effective 0001 Greenwich Mean Time 1 June, 1968, the new ICAO flight plan form and applicable procedures will be implemented by Canada for international flights originating in, or entering, Canadian controlled airspace. There will be no change in the flight plan format or procedures which now apply to domestic flights or to trans-border flights between Canada and the United States.

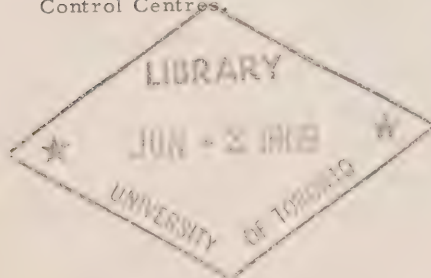
The FIR boundary estimated times in Item 13 of the form are not required for operations within Canadian controlled airspace.


SPECIAL PROCEDURES, GANDER OCEANIC CONTROL AREA:

"Estimated Elapsed Times" (EET) now required for North Atlantic Operations are replaced by "Estimated Times Over Significant Points Enroute" (EST) and are to be inserted in Item 18 of the new ICAO flight plan.

TAS is to be inserted in Item 15 of the form, except for those stage lengths along the route of flight within the NAT Region where Mach number techniques are employed. In this area, speed shall be indicated as a Mach number.

Supplies of the new ICAO Flight Plan Form (NEW-28-0081) are available at all Area Control Centres.




R.W. Goodwin,
Director, Civil Aviation.

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

NOTAM



Land Aerodromes

18/68

1 May

DEPARTMENT OF TRANSPORT

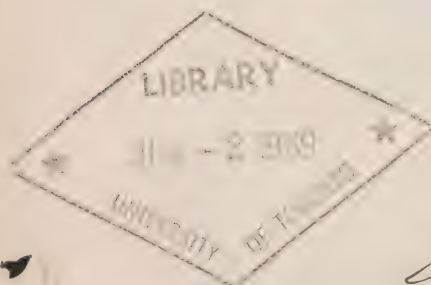
AIR SERVICES
CIVIL AVIATION BRANCH

CRANBROOK AIRPORT, B.C.

Effective June 1st, 1968, aircraft operations at the former Cranbrook, B.C., airport will be prohibited. Until that date the use of the airport is restricted to VFR daylight flights only since servicing, airport maintenance and lighting are no longer provided.

The (new) Cranbrook airport is located approximately 5 N.M. North of the old site. It is licensed as a public airport for day and night operations with facilities and services available as indicated below:

Position	- Lat. 49°36'N, Long. 115°47'W.
Elev.	- 3082 feet ASL.
Runway	- 16-34 - 6000' x 150', asphalt surface.
Operated by	- City of Cranbrook.
Lighting	- (Available only on prior request to the Airport Manager, Telephone 426-4844 or 426-2588). Rotating beacon; Threshold lights (green); Runway lights (clear); Taxiway lights (blue); Lighted wind indicator; Obstruction lights.
Terminal Facilities	- LFR-DOT 242 QE; A/G CPA 2917 & 5461.5.
Servicing Public Facilities	- Fuel - 80/87, 100/130; Oil 80, 100.
	- Customs port of entry and exit on request, for tourists only; (ADCUS) available through Kimberley Radio. Telephone and Teletype (CPA) at field. Telegraph, bus, taxi and hotels in Cranbrook.
Remarks	- Right Hand circuits Rwy. 34. All manoeuvring to North and East. Range tower 3.5 NM-SE, 3130' ASL. Tower 2.8NM-SW, 4114' ASL; Mountain 30.4 NM-NE, 11050' ASL. Night operations permitted only when ceiling is 1000 feet or higher and visibility is 5 miles or more.



R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



19/68
1st June

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st JUNE, 1968

1966	1967		1968	
8/66	4/67	23/67	3/68	11/68
15/66	5/67	24/67	5/68	14/68
21/66	16/67	25/67	6/68	15/68
	18/67	27/67	8/68	17/68
	19/67	29/67	10/68	18/68

GENERAL

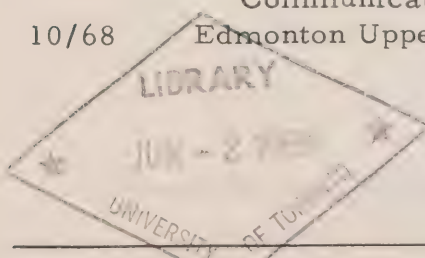
14/68 Prohibited, Restricted and Danger Areas Method of Identification

HAZARDS TO AIR NAVIGATION

8/68 Hazards to Air Navigation U. S. A. F. - Low Level Training
Flights
15/68 Hazards to Air Navigation

CANADIAN AIRSPACE CHARACTERISTICS

25/67 Canadian Airspace Characteristics
5/68 Canadian Airspace Characteristics - Fraser Canyon VHF
Communications Service
10/68 Edmonton Upper Flight Information Region (Amends 25/67)



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LAND AERODROMES

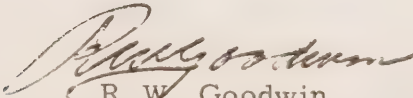
21/66 Special Procedures and Facilities
5/67 Special Procedures and Facilities (Amends 21/66)
16/67 Special Procedures and Facilities (Supplements 21/66)
18/67 Restricted Use of DND Aerodrome Puntzi Mountain, B. C.
(Supplements 21/66)
19/67 Noise Abatement Procedures - Montreal and Toronto Inter-
national Airports (Amends 21/66)
23/67 Special Procedures and Facilities (Amends and Supplements
21/66)
18/68 Cranbrook Airport

WATER AERODROMES

24/67 Special Procedures and Facilities

AIR TRAFFIC CONTROL PROCEDURES

8/66 Area Control Above FL 230
15/66 Special VFR Procedures - Vancouver International Airport
4/67 Air Traffic Control Procedures
27/67 Extended Terminal Control Service (Supplements 4/67)
29/67 Extended Terminal Control Service (Supplements 27/67)
3/68 Special Procedures in the Gander Oceanic Control Area
(Supplements 4/67)
6/68 Air Traffic Control Holding Procedures (Supplements 4/67)
11/68 Edmonton Upper Flight Information Region (Amends 4/67)
17/68 New ICAO Flight Plan Form (Supplements 4/67)


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Government of Canada
Restrictions
Restricted Airspace

20/68
24 June 68

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Top Rung 69-1-E will take place over eastern Canada between 0330 hours and 1015 hours Greenwich Mean Time on August 8, 1968.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|-------------|---|
| AREA I | - between flight level 190 and flight level 450 between 0330 hours and 1015 hours Greenwich Mean Time on August 8, 1968. |
| SUB AREA I | - below flight level 190 between 0600 hours and 1015 hours Greenwich Mean Time on August 8, 1968. |
| AREA II | - between flight level 350 and flight level 410 between 0600 hours and 0845 hours Greenwich Mean Time on August 8, 1968, and; |
| | - between flight level 190 and 210 between 0400 hours and 0600 hours Greenwich Mean Time on August 8, 1968. |
| SUB AREA II | - below flight level 190 between 0515 hours and 0820 hours Greenwich Mean Time on August 8, 1968. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Air Traffic Control

21/68
15 July

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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EXTENDED TERMINAL CONTROL SERVICE TORONTO, ONTARIO

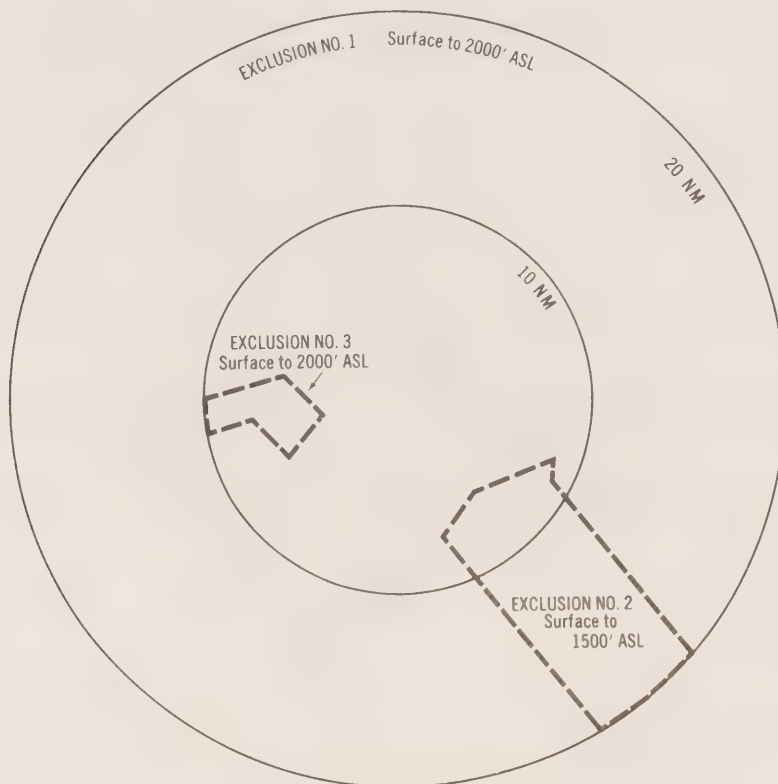
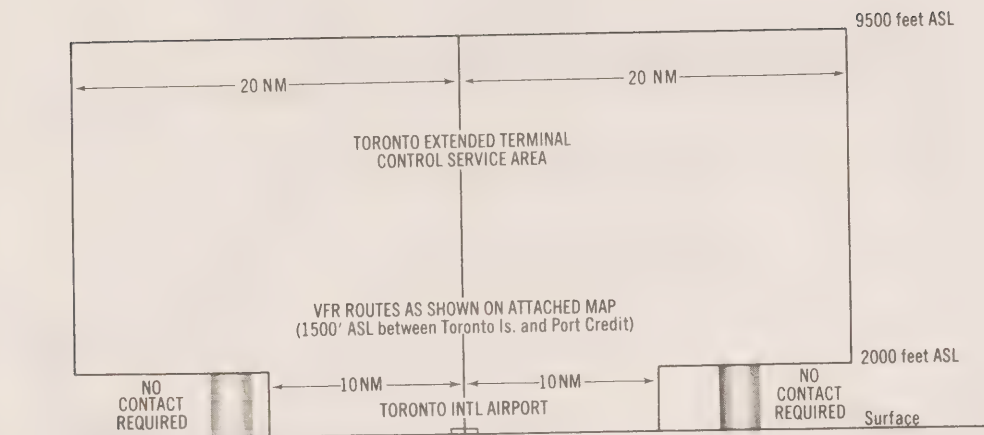
(Superseding NOTAM 29/67)
(Supplementing NOTAM 4/67 & 27/67)

Extended Terminal Control Service was implemented, within a 20 statute mile radius of the Toronto International Airport on January 1, 1968, in the interest of improving flight safety in the Toronto terminal area. The objective of this service was to provide participating VFR flights with radar surveillance, traffic information and other services previously provided only to IFR flights, in order to more efficiently control the flow of IFR and VFR arrivals and departures at the two major airports (Toronto International and Downsview) and to integrate this traffic with other flights transiting the area.

The very large response to this service created serious congestion on the Toronto Terminal Control radio frequencies and such a load on the control unit that the desired level of service could not be achieved. It has, therefore, become necessary to modify the original procedures and redefine the Service Area in order to meet the objective of the service. In addition, a number of VFR routes have been established to assist VFR flights in keeping clear of the Extended Service Area. Accordingly, the Toronto Extended Terminal Control Service Area (ETCSA) has been redefined as that airspace contained within a 20 nautical mile radius of the Toronto International Airport from the surface up to 9500 feet ASL, with the following exclusions:

- (1) The airspace between the 10 and 20 nautical mile radius of the Toronto International Airport from the surface to 2000 feet ASL.
- (2) The VFR route between the western perimeter of the Toronto Island Control Zone to Port Credit and the airspace south of this route to the outer perimeter of the ETCSA, which is from the surface to 1500 feet ASL.
- (3) The Brampton Corridor within the 10 nautical mile radius of the Toronto International Airport from the surface to 2000 feet ASL.





AS ALL IFR FLIGHTS ARE ROUTINELY INVOLVED, IN THE INTEREST OF IMPROVING FLIGHT SAFETY WITHIN THIS AREA, ALL PILOTS OPERATING IN ACCORDANCE WITH THE VISUAL FLIGHT RULES WHO NEED TO OPERATE WITHIN THE EXTENDED SERVICE AREA ARE TO COMPLY WITH THE FOLLOWING FLIGHT PROCEDURES.

Flight Procedures

IFR flights - Current IFR procedures will apply to IFR flights operating within the Toronto Extended Terminal Control Service Area.

VFR flights - Prior to entering and/or operating within the Toronto Extended Terminal Control Service Area, pilots must establish and maintain radio communication with Toronto Terminal Control on 119.7 MHz or 125.4 MHz.

Radar identification of aircraft operating within the ETCSA is of prime importance in the provision of an effective service. For this reason, arriving and transiting aircraft shall enter the ETCSA over, or as near as possible to, those navigational aids or numbered visual aids depicted on the attached chart. Also, pilots shall contact Toronto Terminal when over or approaching those navigational or numbered visual aids. Aircraft equipped with DME or a transponder may enter at any point provided contact is established with Toronto Terminal immediately prior to entering the ETCSA.

Pilots are requested to provide the Terminal upon initial contact their geographical position, altitude and destination.

Example:

Pilot: Toronto Terminal this is Alpha Bravo Charlie, over.

Terminal: ABC Toronto Terminal, over.

Pilot: Toronto Terminal ABC over Orangeville, 5000 landing Toronto International.

Terminal will provide necessary information or instructions.

Aircraft operating within the excluded areas shall not contact Toronto Terminal Control except those aircraft intending to land at the Toronto International or Downsview Airports. Pilots intending to use navigational and/or approach aids within the ETCSA for training purposes are required to obtain prior approval from Toronto Terminal Control before take-off from their respective airports.

Aircraft operating wholly within the Toronto International, Toronto Island, Downsview and Buttonville control zones shall maintain communication with the control tower controlling the zone.

Any ATC instruction issued to VFR flights is based on the firm understanding that a pilot will advise ATC immediately if compliance with the instruction would result in his not being able to maintain adequate terrain or obstruction clearance, or to continue flight in accordance with the Visual Flight Rules. If so advised, ATC will issue alternate instructions.

ATC Procedures

When aircraft are within radar coverage, controllers may request arriving, departing or transiting aircraft to report their position in relation to radio or prominent geographical fixes, which may be within or outside the perimeter of the extended service area. These reports will assist ATC to radar identify the aircraft.

To the extent possible, traffic information, flight information and radar navigation assistance will be provided to VFR flights.

VFR aircraft may be provided with routing instructions in the ETCSA.

Radar vectors may be given to VFR flights operating within the ETCSA when:

- (a) Vectoring is requested by the pilot.
- (b) Vectoring is suggested to and accepted by the pilot.
- (c) Vectoring is necessary to position an aircraft in the approach sequence.
- (d) The controller considers that vectoring is necessary for safety of flight.

An altitude may be assigned to a VFR aircraft when considered necessary.

If these services to aircraft entering the ETCSA cannot be provided, or if service is terminated before an aircraft leaves the area, the pilot will be so informed by ATC.

THESE PROCEDURES ARE NOT TO BE INTERPRETED AS RELIEVING PILOTS OF THEIR RESPONSIBILITY TO SEE AND AVOID OTHER TRAFFIC, TO MAINTAIN APPROPRIATE TERRAIN AND OBSTRUCTION CLEARANCE, OR TO REMAIN IN WEATHER CONDITIONS EQUAL TO OR BETTER THAN THE PUBLISHED VFR MINIMA.

VFR Routes

In order to accommodate VFR pilots wishing to avoid the ETCSA and to help ATC to differentiate between such flights and those operating within the ETCSA, VFR routes have been established along normal traffic flow patterns outside the 10 mile perimeter of the Toronto International Airport. Accordingly, pilots of aircraft operating to or from the following airports are requested to adhere to the following VFR routes at or below the altitudes specified. These routes are two miles wide and are shown on the attached chart. Traffic operating via these routes should fly so as to keep the centreline of such routes on their left. It is recognized that itinerant pilots may not be familiar with these routes and, if requested, ATC will provide the necessary assistance.

(1) Toronto Island to Buttonville

East via the Lakeshore to the Greenwood Racetrack then via the Don Valley Parkway to Highway 401 direct to Buttonville, altitude 2000 feet ASL or below.

(2) Toronto Island to Kitchener/Waterloo, Guelph

West via the Lakeshore to Port Credit, altitude 1500 feet ASL or below, Port Credit to Oakville, altitude 2000 feet ASL or below, then direct to destination.

(3) Buttonville/Maple/King to Kitchener and Guelph and Hamilton

Buttonville direct Maple - direct Bolton then direct Cheltenham then via the Credit River to Georgetown, altitude 2000 feet ASL or below, then direct to destination.

NOTE: Pilots may leave or enter these routes, avoiding the ETCSA, at any point along the routes, EXCEPT TOWARDS THE AREA OF HIGH TERRAIN DEPICTED ON THE ATTACHED CHART.

General

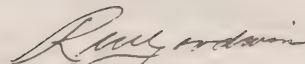
Pilots must establish and maintain radio communication with the appropriate control tower prior to operating within control zones at the following airports:

Buttonville
Downsview
Toronto International
Toronto Island

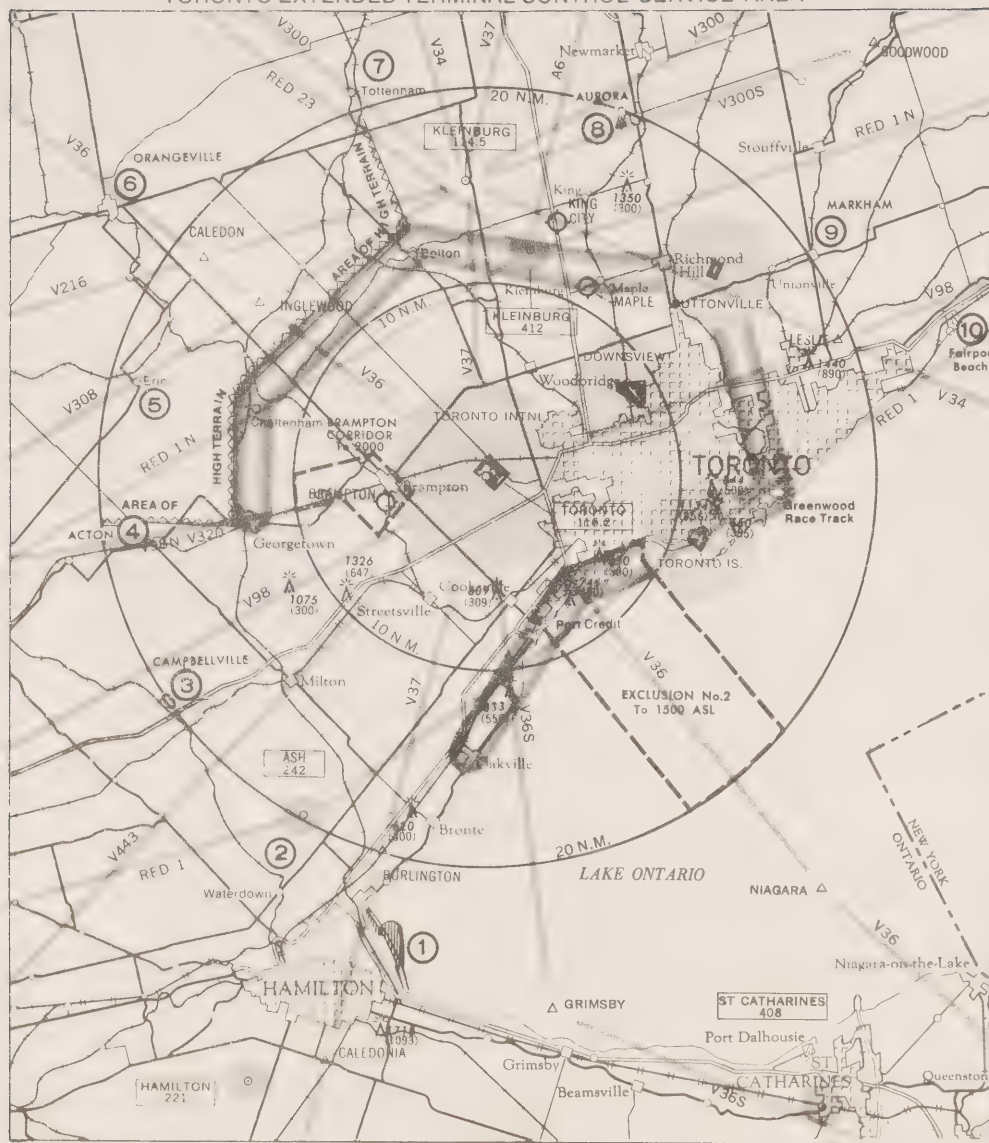
The control zones and corridors within the ETCSA are defined as follows:

- (a) Buttonville, Downsview and Toronto Island control zones - within a three nautical mile radius of the centre of the respective airports and extending vertically to 2000 feet ASL.
- (b) Toronto International Control Zone - within a five nautical mile radius of the centre of the Toronto International Airport excluding the Brampton Corridor and extending vertically to 2000 feet ASL.
- (c) Brampton Corridor is the area bounded on the east by Highway No. 10, on the south by Steeles Ave. , on the north by the C.N.R. tracks, and on the west by the Streetsville Road. The corridor extends one mile either side of the northwest branch of the C.N.R. tracks between Brampton and the 10 n.m. perimeter of the ETCSA. The corridor is capped at 2000 feet ASL.

SEE ATTACHED CHART


R. W. Goodwin,
Director, Civil Aviation.

TORONTO EXTENDED TERMINAL CONTROL SERVICE AREA



Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

NUMBERED VISUAL AIDS

- | NUMBERED VISUAL AIDS | |
|--|--|
| 1. Burlington - Skyway Bridge | 6. Orangeville |
| 2. Waterdown | 7. Tottenham |
| 3. Campbellville - Mohawk Race Track | 8. Aurora - Green Water Tank (in centre of town) |
| 4. Acton - Beardmore Plant (in centre of town) | 9. Markham |
| 5. Erin | 10. Fairport Beach |

SCALE

Nautical Miles

Control zones

TORONTO 116.2

VORTAC

Non-directional radio beacon

Boundary of VFR route

NOTAM



Government
Publications
Radio

22/68
1st August

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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NAVIGATIONAL AIDS AND AIR/GROUND COMMUNICATIONS

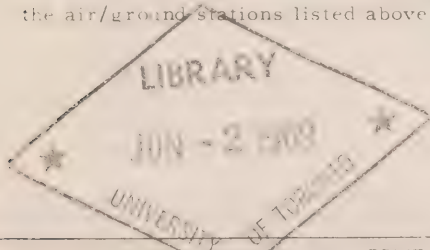
IMPLEMENTATION OF NEW AERONAUTICAL MOBILE HIGH FREQUENCY ASSIGNMENT PLAN - CANADIAN INTERNATIONAL AIR/GROUND STATIONS

In accordance with the new Aeronautical Mobile High Frequency (HF) Assignment Plans for the various ICAO Regions the following frequency changes will become effective at the listed Canadian International Air/ground stations at 0001 hours Greenwich Mean Time September 19th, 1968.

Location	Frequencies (kHz) in use prior to September 19th, 1968	Frequencies (kHz) effective September 19th, 1968
Churchill	5626.5	5624
Edmonton	5626.5	5624
Frobisher Bay	5626.5	5624
Gander	5611.5	5610
	5611.0 (5612.5)*	5610 (5611.5)*
	5671.5	5673
	5626.5	5624
Goose	5626.5	5624
Mont Joli	5626.5	5624
Montreal	5626.5	5624
Ocean Station Vessel Papa	2987	2910
	5521.5	5589
Resolute	2987	2910
	5521.5	5589
	5626.5	5624
Winnipeg	5626.5	5624
Vancouver	2987	2910
	5521.5	5589

* SSB The assigned (upper sideband) frequency is shown in brackets.

Air/ground communications service on the frequencies listed in the first column of frequencies above will be discontinued at 0001 hours Greenwich Mean Time September 19th, 1968, at which time aircraft using these frequencies must change to the new frequencies to maintain communications with the air/ground stations listed above.



R. W. Goodwin,
Director, Civil Aviation.

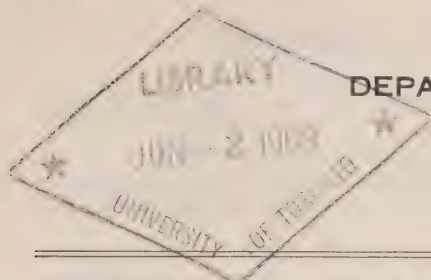
TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

NOTAM



Government
Publications
Aerodromes - Land

23/68
15th August



DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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SPECIAL PROCEDURES AND FACILITIES

LAND AERODROMES

(Superseding NOTAM 21/66, 5/67, 16/67, 18/67, 19/67 and 23/67)

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TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

SECTION 1 WINNIPEG TO ATLANTIC OCEAN

ARNPRIOR, ONT. (45°25'N, 76°22'W)

The former airport property at Arnprior, Ont., is now licensed as a private heliport. It is not to be used by conventional aircraft except in an emergency and landings made will be at the risk of the aircraft operator.

BAGOTVILLE, QUE.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 11 and 18.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

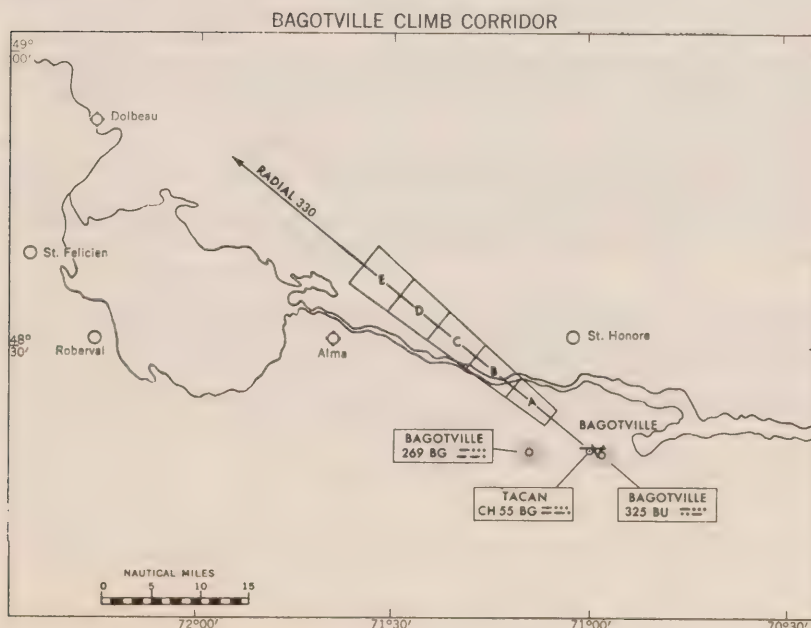
BAGOTVILLE CLIMB CORRIDOR - The Bagotville Climb Corridor is centred on the 330° M radial of the Bagotville TACAN and is contained within the following geographical co-ordinates:

48°22'25"N	71°06'30"W
48°36'50"N	71°37'10"W
48°40'40"N	71°32'40"W
48°24'05"N	71°04'35"W

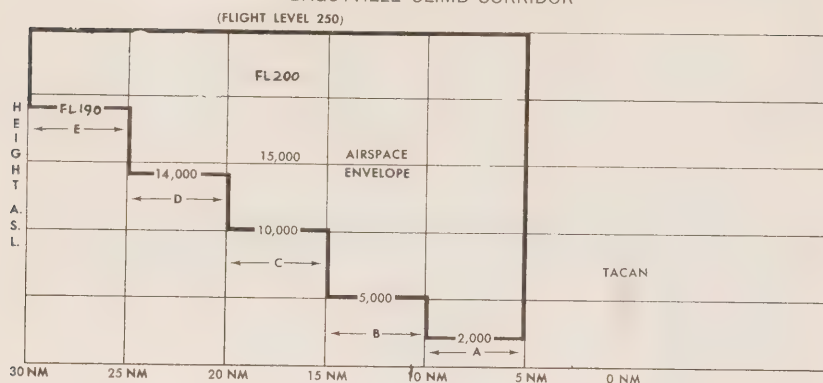
The airspace envelope associated with the Bagotville Climb Corridor is:

- Within Area "A", from 2,000 feet ASL to Flight Level 250
- Within Area "B", from 5,000 feet ASL to Flight Level 250
- Within Area "C", from 10,000 feet ASL to Flight Level 250
- Within Area "D", from 14,000 feet ASL to Flight Level 250
- Within Area "E", from Flight Level 190 to Flight Level 250

(see accompanying charts)



PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
BAGOTVILLE CLIMB CORRIDOR



High performance aircraft using the Climb Corridor will climb from 3,000 feet ASL to Flight Level 250 within the airspace envelope.

Primarily, the Bagotville Climb Corridor will be used by high performance military aircraft departing Bagotville. However, high performance civil aircraft may also use it with the prior approval of Bagotville Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the Bagotville Climb Corridor should first communicate with Bagotville Terminal Area Control.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within a radius of 40 statute miles of the military aerodrome at Bagotville, Que.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 40 miles of Bagotville, Que., unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Bagotville Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Bagotville Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military aerodrome at Bagotville and the approaches to runways thereof.

Primary communication frequencies are as follows:

Bagotville Terminal Control - 123.7
Bagotville Tower - 121.5, 126.2

BRAMPTON, ONT.

Right hand circuits are in effect for runway 14. Runway 03-21 is closed.

BRANTFORD, ONT.

Brantford aerodrome is periodically the scene of extensive glider flying. Pilots of gliders and tow planes take off and land on the right hand runway and make right hand circuits.

Pilots of powered aircraft, other than tow planes, are to land and take off on the left hand runway and make left hand circuits. Pilots of visiting aircraft are cautioned to avoid the airspace immediately adjacent and to the right of the runways in use, below an altitude of 2,000 feet above the ground.

BUTTONVILLE AIRPORT, TORONTO, ONT.

Effective May 1st, 1967, unless otherwise authorized, aircraft taking off and landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Buttonville Tower operates daylight hours only, except Mondays and Wednesdays when it operates until 0400 GMT for night flying training.

Communication frequencies are as follows:

Tower	- 120.1, 212 kHz T, 122.5R (3023.5R on request only)
Ground	- 121.8
Emergency	- 121.5

CARTIERVILLE, QUE.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 24, 28 and 33.

SPECIAL PROCEDURES - No aircraft is to land at Cartierville Airport during the hours when the Cartierville Control Tower is not in operation.

The normal hours of operation of this tower are:

- (a) From June 1 to September 30 - 0700 hours local time to one-half hour after sunset.
- (b) From October 1 to May 30 - 0800 hours local time to one-half hour after sunset.

In the event that it is necessary for a radio-equipped aircraft, normally based at Cartierville, to take off during the hours when the Cartierville Tower is not in operation, it is essential that the pilot establish communication with the Montreal Control Tower while on the ground and obtain approval to enter the airspace in the Montreal Control Zone. In addition, when this approval has been obtained, the pilot is to maintain a listening watch on the appropriate Montreal Control Tower frequency during the take-off and while in flight within that zone.

Pilots are cautioned, however, that this permission to operate in the Montreal Control Zone is granted only in relation to other airborne traffic in the zone and is not to be considered as constituting a controller's approval for manoeuvring on Cartierville airport or for taking off from that airport. It will be the pilot's responsibility in all such cases to ensure that manoeuvring on the ground and taking off from the runway can be done with complete safety.

CHATHAM, N. B.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 16.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within a radius of 60 NM of the DND aerodrome at Chatham, N. B.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 60 NM of Chatham, N. B. , unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Chatham Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Chatham Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the DND aerodrome at Chatham and the area described as follows: the area bounded by a line from Chatham aerodrome; 47°10'N, 64°50'W; 47°00'N, 64°50'W; to the point of beginning.

In addition to the foregoing, flights of civilian aircraft using the Douglastown Air Strip, while within the Chatham Control Zone, (10 statute mile radius of Chatham aerodrome) should avoid that part of the Control Zone lying South of the South Bank of the Miramichi River and West of the Eastern limits of the Town of Newcastle. This includes arrivals and departures as well as local flights. Exceptions to this rule may be granted for flights equipped with two-way radio and in contact with Chatham Tower or Terminal Control.

Primary communication frequencies are as follows:

Chatham Terminal Control	- 123.7, 346.9
Chatham Tower	- 126.2, 121.5, 278T and 236.6

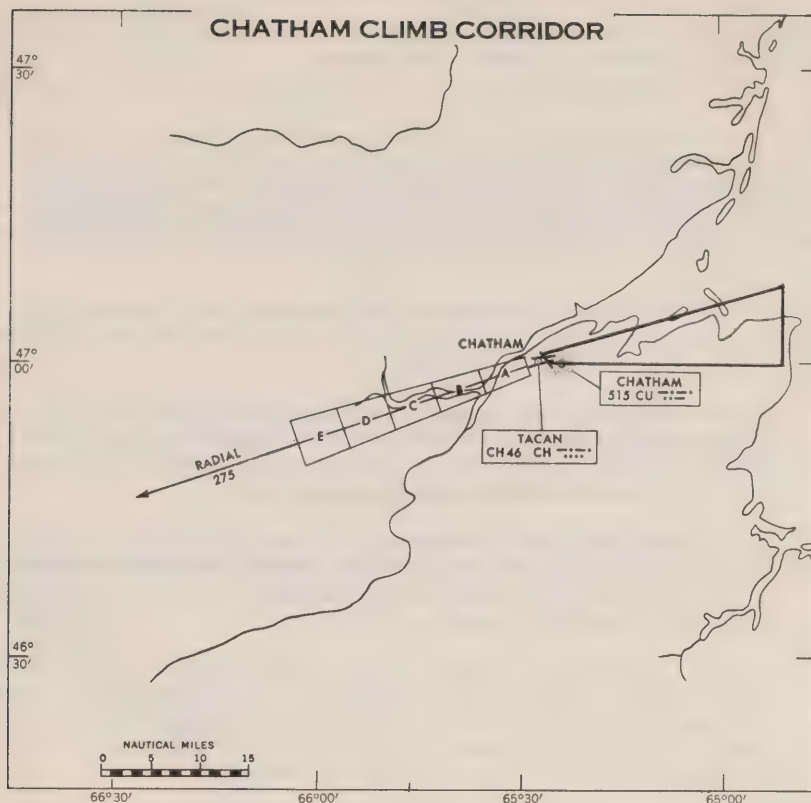
CHATHAM CLIMB CORRIDOR - The Chatham Climb Corridor, is centred on the 275°M radial of the Chatham TACAN and is contained within the following co-ordinates:

46°59'10"N	65°28'45"W
46°49'45"N	66°02'20"W
46°54'20"N	66°04'40"W
47°01'10"N	65°29'20"W

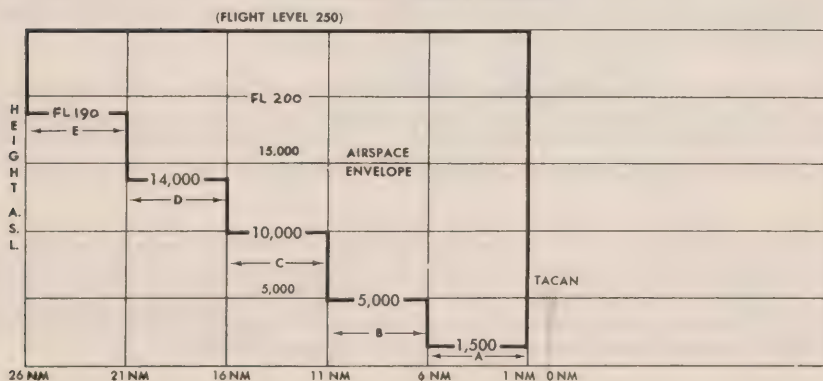
The airspace envelope associated with the Chatham Climb Corridor is:

In Area "A", (from 1 NM out to 6 NM out) 1,500 feet ASL to Flight Level 250
In Area "B", (from 6 NM out to 11 NM out) 5,000 feet ASL to Flight Level 250
In Area "C", (from 11 NM out to 16 NM out) 10,000 feet ASL to Flight Level 250
In Area "D", (from 16 NM out to 21 NM out) 14,000 feet ASL to Flight Level 250
In Area "E", (from 21 NM out to 26 NM out) Flight Level 190 to Flight Level 250

(see accompanying charts)



PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
CHATHAM CLIMB CORRIDOR



High performance aircraft using the Climb Corridor will climb from 2,000 feet ASL to Flight Level 250 within the airspace envelope.

Primarily, the Chatham Climb Corridor will be used by high performance military aircraft departing Chatham aerodrome. However, high performance civil aircraft may also use it with the prior approval of Chatham Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the Chatham Climb Corridor should first communicate with Chatham Terminal Area Control.

CHURCHILL, MAN.

All operators and pilots are notified that sounding rockets will be launched from the Churchill Research Range located 9 miles east of Churchill airport, Churchill, Man. The range activity will occur throughout the year but will be more concentrated between the period from November 1st to July 15th annually.

Dependent on the characteristics of each rocket, the trajectory will cross all altitudes up to approximately 600,000 feet during a period not exceeding 30 minutes from the time of launch. The point of impact will lie within one of the following areas:

- Area "A" - is delineated by a line commencing at a point 58°56'N, 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence East to a point 57°20'N, 91°08'W; thence to 57°04'N, 90°00'W; thence due North to a point 59°46'30"N, 90°00'W; thence to the point of beginning.
- Area "B" - is delineated by a line commencing at a point 59°46'30"N, 90°00'W; thence proceeding South to 57°04'N, 90°00'W; thence to 55°13'N, 82°30'W; thence to 55°28'N, 82°00'W; thence proceeding North to a point 61°27'N, 82°00'W; thence to the point of beginning.
- Area "C" - is delineated by a line commencing at a point 55°28'N, 82°00'W; thence proceeding to 58°55'N, 78°28'W; thence due North to 63°15'N, 78°28'W; thence Westerly to 63°15'N, 83°00'W; thence to 60°21'N, 94°00'W; thence to 58°56'N, 94°00'W; thence to 59°46'30"N, 90°00'W; thence to 61°27'N, 82°00'W, and thence Southerly to the point of beginning.
- Area "D" - is delineated by a line commencing at a point 63°15'N, 83°00'W; thence proceeding to 63°15'N, 90°00'W; thence to a point 60°21'N, 94°00'W; thence to the point of beginning.

It is planned that the majority of rockets launched will impact at a point within Area "A". However, on occasion, impact Areas "B", "C" and "D" will be required. Insofar as it is feasible, radar and other devices and procedures will be used to exercise surveillance over the area during the range operations. No rocket will be launched if it is known that an aircraft or ship is likely to be in a position as to be endangered by the trajectory or impact of a rocket.

A Class I NOTAM will be issued 24 hours in advance of each launch which will indicate the area within which the impact point lies. The airspace associated with the areas designated in Class I NOTAM will be released as soon as possible after impact is confirmed or if the operation is aborted. Every effort will be made to ensure minimum interference with aviation activities in the Hudson Bay region.

In view of the limited duration of each rocket flight and the safety precautions which are in effect, it is considered unnecessary for the areas to be designated as Danger Areas. Operators and pilots should watch for Class I NOTAM pertaining to rocket launches, and before traversing any part of the airspace over the areas described above, pilots should communicate with Churchill Radio or Winnipeg Air Traffic Control Centre, either directly or via the normal communication network.

GODERICH, ONT.

Right hand circuits are in effect for runways 04 and 33.

GOOSE, NFLD.

GOOSE CLIMB CORRIDOR - The Goose Climb Corridor, is centred on the extended centreline of runway 35 at the Goose airport, and is contained within the following geographical co-ordinates:

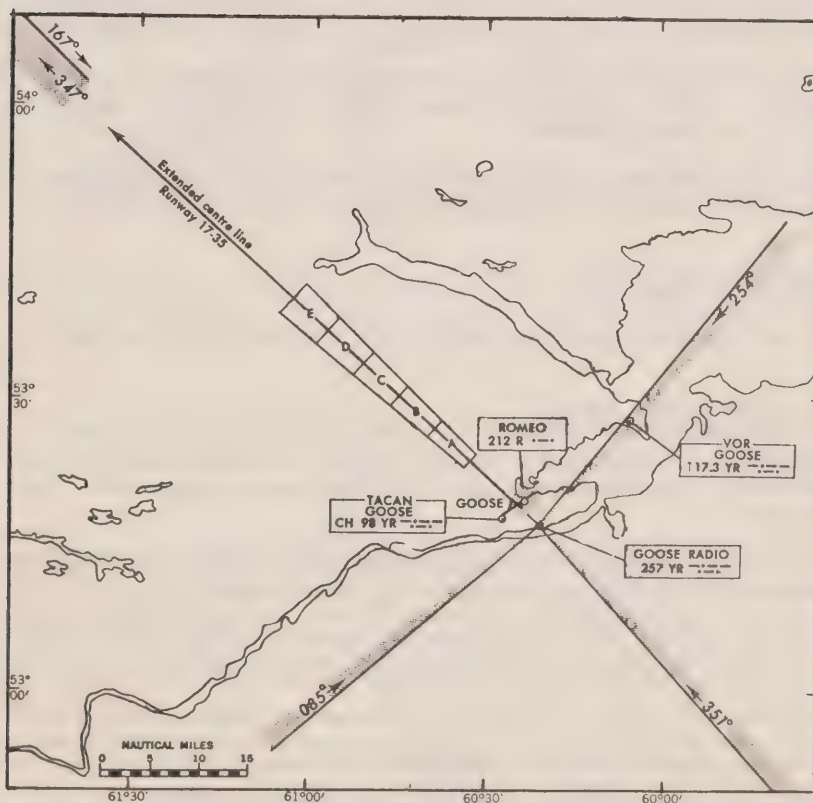
53°23'00"N	60°33'45"W
53°39'00"N	61°05'50"W
53°42'00"N	61°01'15"W
53°24'20"N	60°31'40"W

The airspace envelope associated with the Goose Climb Corridor is:

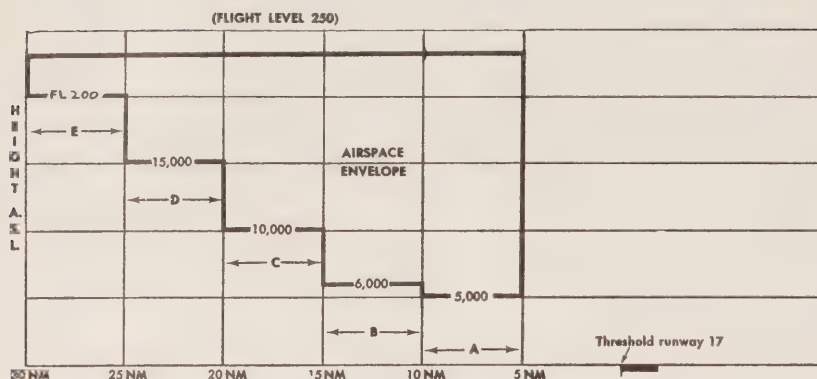
Within Area "A", from 5,000 feet ASL to Flight Level 230
 Within Area "B", from 6,000 feet ASL to Flight Level 230
 Within Area "C", from 10,000 feet ASL to Flight Level 230
 Within Area "D", from 15,000 feet ASL to Flight Level 230
 Within Area "E", from Flight Level 200 to Flight Level 230

(see accompanying charts)

GOOSE CLIMB CORRIDOR



**PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
GOOSE CLIMB CORRIDOR**



High performance aircraft using the Climb Corridor will maintain 5,000 feet ASL until by the entry point of the Corridor, then climb to Flight Level 230 within the airspace envelope.

Primarily, the Goose Climb Corridor will be used by high performance military aircraft departing Goose airport. However, high performance civil aircraft may also use it with the prior approval of Goose Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the Goose Climb Corridor should first communicate with Goose Terminal Area Control.

HALIFAX INT'L AIRPORT, N. S.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

HIGHWATER, QUE. (MONTREAL, QUE.)

SPECIAL PROCEDURES - AEROBALLISTIC FIRING RANGE - All operators and pilots are notified that firings of aeroballistic vehicles will take place from the vicinity of Highwater, Que., intermittently throughout the year.

Dependent on the characteristics of each vehicle, the ascent and descent paths may cross all altitudes up to approximately 250,000 feet during a period not exceeding 15 minutes from the time of launch. The point of launching and the point of impact will lie within the following area: from 45°00'30"N, 72°27'36"W; thence westerly along the Canadian/U. S. boundary to 45°00'27"N, 72°33'W; thence to 45°01'44"N, 72°33'W; thence to 45°01'44"N, 72°27'36"W; thence to the point of beginning.

Insofar as it is feasible, radar, together with other devices and methods, will be used to exercise surveillance over the area during the operation in question and all practicable safety precautions will be taken. No vehicle will be launched if it is known that any aircraft is likely to be in such a position that either the trajectory or impact could occasion a hazard.

A Class I NOTAM will be issued approximately 24 hours in advance of each launch. The airspace associated with the area designated will be released as soon as possible after impact is confirmed, or if the time of launch is delayed for any appreciable period, or if the operation is abandoned for any reason. Every effort will be made to ensure minimum interference with normal aviation activities in the area.

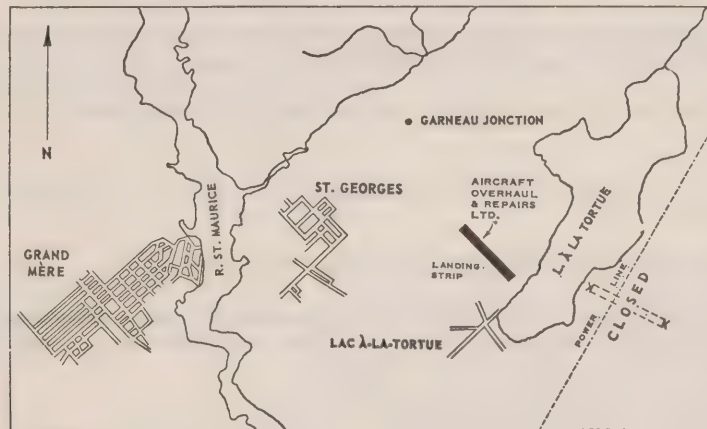
In view of the limited duration of each vehicle flight and the safety precautions which will be adopted, it is considered unnecessary for the area to be designated as a Danger Area. Operators and pilots should watch for Class I NOTAM pertaining to vehicle launches, and, before traversing any part of the airspace over the area described above, pilots should communicate with Montreal Air Traffic Control Centre, either directly or via the normal communication network.

LAC A LA TORTUE, QUE.

DANGEROUS ALIGHTING AREA - Two airstrips are visible from the air at the southerly end of Lac a la Tortue, Que.:

- (a) The first, on the west side of the lake, at 46°37'N, 72°38'W; is operated by Aircraft Overhaul and Repairs Limited, and appears in the VFR section of the Canada Air Pilot.
- (b) The second, east of the lake is rendered unsafe for aircraft use by a powerline crossing over the strip at right angles, and is marked with a white cross at each end.

Both strips are clearly shown in the accompanying diagram. Pilots are warned that the strip on the east side of the lake is not to be used.



LONDON, ONT.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

MAPLE, ONT.

Right hand circuits are in effect for runways 08, 14 and 23.

MONTREAL INT'L AIRPORT, QUE.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 06R, 06L and 10.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES - These procedures are applicable to all turbojet aircraft operating at Montreal International airport. They establish restrictions applicable to the period between midnight and 0700 hours local time, specific minimum operating altitudes, and specific directions of flight to avoid insofar as practicable residential areas surrounding the airport.

Unless prior authorization has been obtained from the Regional Director, Air Services, or his designated representative, the operation of turbojet aircraft between midnight and 0700 hours local time shall be in accord with the following:

- (a) the scheduling of regular flights using turbojet aircraft is not permitted during this period;
- (b) turbojet aircraft, other than those operating in accordance with a published service schedule, are not permitted to use Montreal International airport during this period;
- (c) flights arriving between midnight and 0700 hours will not be permitted to depart prior to 0700 hours.

Diligent application of Noise Abatement Procedures by all turbojet aircraft during take-off/ climb and approach/land manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

Preferential Runways - The procedures set forth below and illustrated on the accompanying chart are to be followed by all turbojet aircraft, unless otherwise authorized by Air Traffic Control. Whenever practicable Air Traffic Control will assign runways in the following order:

- (a) Take-offs: 06L, 10, 06R, 28, 24R, 24L
- (b) Landings: 24R, 28, 24L, 06R, 06L, 10

Should valid aircraft operational requirements preclude the use of the assigned runway, ATC is to be informed of the reason and requested to assign another runway.

For the information of all pilots, the following factors will be considered by ATC in selecting the preferential runway:

- (i) The physical condition of the runway surface, i. e. , dry, wet, ice covered, sanded and braking action.
- (ii) The effective crosswind component should not exceed 15 knots.
- (iii) The effective downwind component should not exceed 5 knots. Notwithstanding the foregoing, the acceptability of the runway to be used must ultimately rest with the pilot.

DEPARTURE PROCEDURES

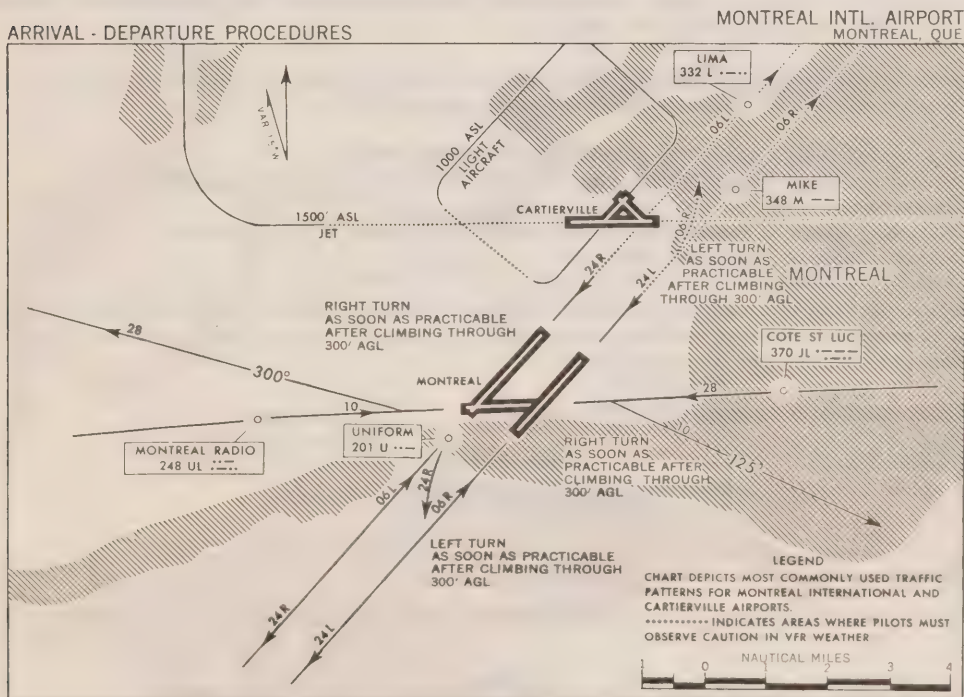
- (a) When weather conditions are not a precluding factor, the approved Company Noise Abatement climb technique shall be used from all runways until the aircraft is at least 2,000 feet above ground level, i. e. , the climb profile for each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement.
- (b) Runway 06L and 06R - climb on runway heading to 3,000 feet ASL before proceeding on course, unless otherwise instructed by ATC.
- (c) Runway 24R and 24L - climb on runway heading to 3,000 feet ASL or until half way across Lake St. Louis before proceeding on course, unless otherwise instructed by ATC.
- (d) Runway 28 - right turn as soon as practicable to climb on a heading of 300° Magnetic to 3,000 feet ASL before proceeding on course.
- (e) Runway 10 - right turn as soon as practicable to climb on a heading of 125° Magnetic to 3,000 feet ASL before proceeding on course.
- (f) Aircraft departing on runways 06R and 24R may be requested to make a limited turn shortly after take-off. In these cases, take-off instructions will include the phraseology "to commence a (left, right) turn as soon as practicable after climbing through 300 feet above ground level to a heading of degrees".

ARRIVAL PROCEDURES

- (a) When weather conditions permit, the minimum circuit height shall be 2,000 feet ASL.
- (b) Aircraft approaching to land shall maintain an initial approach altitude of not less than 2,000 feet ASL and should hold this altitude as long as practicable before commencing final descent to the runway. During final approach under both VFR and IFR, every effort should be made to remain on or slightly above the approach slope angle as provided by the ILS Glide Path, VASIS or PAR.
- (c) Turns on to final approach shall be completed at a distance of not less than 6 nautical miles from the threshold of the runway to be used.
- (d) The use of thrust and the selection of gear and flap settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement during the approach-to-land manoeuvre.
- (e) Unless otherwise directed by ATC airport circuit direction shall be as follows:

Runways 24L, 24R, and 28 - Left Hand
Runways 06L, 06R, and 10 - Right Hand

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO
ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT
SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.



Produced by the Surveys and Mapping Branch,
Department of Energy, Mines and Resources, Ottawa.

SPECIAL NOTE - Approaches to Runway 24R and 24L
Departures from Runways 06R and 06L

When operating in the approach areas to 24L and 24R (06L and 06R take-off/climb areas) pilots are cautioned to keep a sharp look-out for military and civil aircraft operating VFR to and from Cartierville airport which is located 3 nautical miles northeast of Montreal International airport.

For the information of pilots using Montreal International airport, aircraft are not permitted to land at Cartierville unless the control tower is in operation.

The normal hours of operation for Cartierville Tower are:

- (a) June 1 to September 30 - 0700 hours local time to one-half hour after sunset;
- (b) October 1 to May 31 - 0800 hours local time to one-half hour after sunset.

It should be noted that night flying may be in progress on Tuesday and Thursday evenings throughout the year until 2359 hours local time.

AIRCRAFT NOISE MONITORING

Semi-automatic noise monitoring equipment has been installed on the approaches to runways 06L, 06R and 24L. In addition, mobile equipment is available for monitoring aircraft noise in any area around the airport.

MOUNTAIN VIEW, ONT.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Mountain View aerodrome is located within the Trenton Terminal Control Area (35 NM radius of Trenton aerodrome, excluding DOT controlled airspace). Extensive day and night military air operations are conducted within this area and a large number of military aircraft (jet and piston) use Mountain View on a non-scheduled basis.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within this control area unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Trenton Control Tower or Terminal Control; and
- (c) a listening watch is maintained on a frequency assigned by the Trenton Control Tower or Terminal Control.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military aerodromes at Trenton and Mountain View.

Primary communication frequencies are as follows:

Trenton Tower	- 126.2, 121.9
Trenton Terminal Control	- 121.2, 137.7

NORTH BAY, ONT.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 26.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

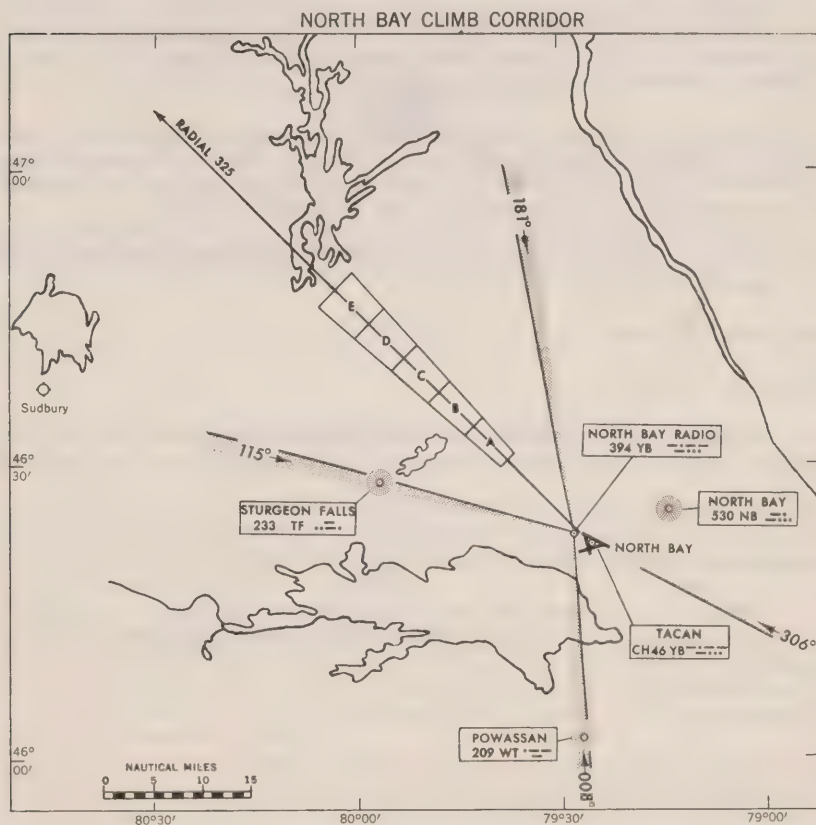
NORTH BAY CLIMB CORRIDOR - The North Bay Climb Corridor is centred on the 325°M radial of the North Bay TACAN, and is contained within the following geographical co-ordinates:

46°29'40"N	79°38'30"W
46°46'20"N	80°05'52"W
46°49'55"N	80°00'40"W
46°31'10"N	79°36'35"W

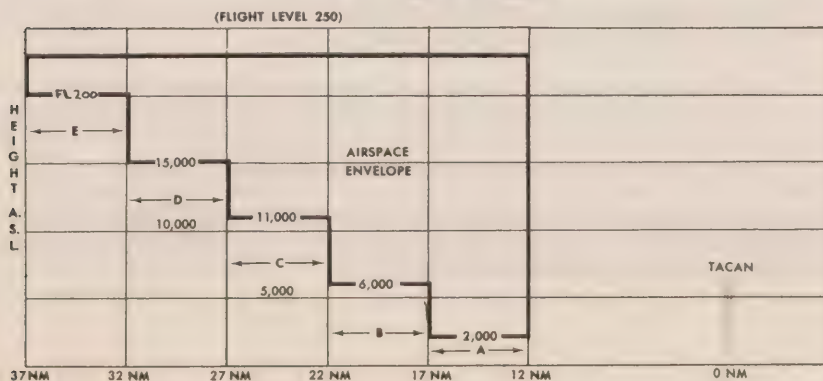
The airspace envelope associated with the North Bay Climb Corridor is:

Within Area "A", from 2,000 feet ASL to Flight Level 230
 Within Area "B", from 6,000 feet ASL to Flight Level 230
 Within Area "C", from 11,000 feet ASL to Flight Level 230
 Within Area "D", from 15,000 feet ASL to Flight Level 230
 Within Area "E", from Flight Level 200 to Flight Level 230

(see accompanying charts)



PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
NORTH BAY CLIMB CORRIDOR



High performance aircraft using the Climb Corridor will climb from 3,000 feet ASL to Flight Level 230 within the airspace envelope.

Primarily, the North Bay Climb Corridor will be used by high performance military aircraft departing North Bay. However, high performance civil aircraft may also use it, with the prior approval of North Bay Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the North Bay Climb Corridor should first communicate with North Bay Terminal Area Control.

OTTAWA INT'L AIRPORT, ONT.

Pilots must establish and maintain radio communication with the Ottawa Control Tower prior to operating within the Ottawa Control Zone.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 07, 14 and 22. Circuit height 1,500 feet ASL.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES - Increased usage of Ottawa International Airport coupled with expanding suburban residential development has reached a point where aircraft noise has become a problem for airport neighbours.

In order to reduce the level of noise and disturbance created by aircraft over residential areas located near the airport, it has been found necessary to introduce the procedures and restrictions shown below. Diligent application of these instructions by all aircraft during take-off and landing manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

The procedures and restrictions set forth below and illustrated on the accompanying chart are to be followed by all aircraft.

DEPARTURE PROCEDURES

Runways 22, 32 and 35 -

When weather conditions permit, departing aircraft are to climb on runway heading to 1,500 feet ASL before initiating a turn, unless otherwise instructed by ATC.

ARRIVAL PROCEDURES

Runways 04, 14 and 17 -

When weather conditions permit, arriving aircraft are to maintain 1,500 feet ASL until established on final approach to the runway, unless otherwise instructed by ATC.

TRAINING FLIGHTS

Training flights intending to operate within the confines of the Ottawa Control Zone are restricted to the following hours of operation:

- (a) single-engine aircraft: from 0815 to 2359 hours local time.
- (b) multi-engine jet aircraft: from 0800 to 2200 hours local time daily except Sundays when training flights are not permitted.
- (c) VFR training circuits will not be permitted on runways 14 and 32 when weather conditions necessitate that circuits be flown below 1,500 feet ASL; and
- (d) practice runway procedures to runway 14 are not permitted.

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.



RESOLUTE, N. W. T.

USE OF RESOLUTE AIRPORT, N. W. T. - Resolute airport is operated and maintained by the Airports and Field Operations Branch of the Department of Transport. The Regional Director, Air Services, Department of Transport, 601 General Post Office Building, Winnipeg, Manitoba, is responsible for the overall control, operation and use of this airport.

The airport and base facilities are scaled and maintained to support the Department of Transport, Air Services, commitments in the area; but where possible will support other Government Agencies and their subsidiaries. Assistance such as ground handling, personnel transportation, accommodation, messing, etc., can only be provided to aircraft and personnel not associated or engaged in support of these programmes on an "as available" basis.

It is of particular importance that Federal or other Agencies planning exploration, survey, scientific and other programmes, who wish to obtain permission to use the facilities at Resolute airport, should make their needs known to the Regional Director, Air Services, Winnipeg, well in advance. Normally a request should precede the activity by one year and preferably by not less than six months. This will allow co-ordination of all user requirements so that the facilities are utilized to the greatest advantage.

Aircraft operators who regularly use Resolute airport should continue to keep the Regional Director advised of their ground support requirements at Resolute. If they require additional assistance for any flight over and above that already agreed upon, they should advise the Airport Manager at least 48 hours in advance of the estimated time of arrival of the aircraft at Resolute. All other aircraft operators who may be anticipating the use of Resolute airport and its facilities must make application and state their requirements to the Regional Director at least two weeks prior to the estimated arrival date. Aircraft operators and Captains of aircraft should note that it is their responsibility to comply with the terms of this NOTAM rather than that of the chartering agency. Each request for support must contain:

- (a) Aircraft type.
- (b) Ownership.
- (c) Purpose of flight, including details of Government sponsorship if applicable.
- (d) Estimated time, date and place of departure.
- (e) Estimated time of arrival at Resolute airport.
- (f) Anticipated fuel, messing, accommodation, ground and cargo handling requirements.
- (g) Number of personnel on board.
- (h) Length of stay, showing inclusive dates.

In reply to each request the Regional Director, Air Services, will provide details of the assistance, if any, that can be provided.

All aircraft operators and others who receive authority to use Resolute airport and/or base facilities must establish credit prior to arriving at Resolute or be prepared to pay cash for all services and materials received. Credit arrangements should be made with Imperial Oil Ltd., in advance of the trip and assurance obtained that the quantity and types of fuel required will be available.

Aircraft operators and Agencies should note that messing, accommodation, other facilities and services are in short supply at Resolute during the following periods and they should plan their schedules to avoid these dates if possible:

- (a) Spring Airlift - April 20 - 30
- (b) Summer Sealift and Fall Airlift - August 10 - September 15

NOTE: Pilots are requested to call the aeradio station at least 10 minutes before landing, and before taxiing out for take-off in order that any equipment working on the runway may be removed.

ADVANCE NOTIFICATION REQUIREMENTS FOR METEOROLOGICAL SERVICE - The meteorological staff at Resolute are frequently hampered in providing pre-flight weather service by lack of sufficient prior notification.

Pilots and aircraft operators are reminded that in their own best interests sufficient advance notice of their requirements must be given so that meteorological staff will be on hand to prepare pre-flight material and to obtain from other stations, information not regularly available at Resolute.

For routine trips the forecast office should be notified at least three hours prior to the time at which the forecast or briefing is required. Notification relating to a long range flight should be given at least 12 hours before the estimated time of departure. The following information should be provided:

- (a) Place and estimated time of departure.
- (b) Destination and estimated time of arrival.
- (c) Alternates for which terminal forecasts are required.
- (d) Proposed cruising altitude of flight.
- (e) Flight rules applicable.
- (f) Time briefing is required.

If time on the ground at Resolute does not permit such advance notice, the request should be placed by message in advance of arrival. Priority of meteorological service will be given to flights which have provided prior notice of requirement for service.

The co-operation of all pilots and operators is earnestly requested.

SHEARWATER, N. S.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

TORONTO INT'L AIRPORT, ONT.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 14, 23L, 23R and 28.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES - The use of Toronto International airport by turbojet aircraft for technical stops or charter operations is not permitted between 2300 and 0700 hours local time.

The introduction of new scheduled flights using turbojet aircraft between the hours of midnight and 0700 hours local time is not permitted.

The following portion of this NOTAM shall be applicable to all types of turbojet aircraft. It establishes specific minimum operating altitudes, and specific directions of flight to avoid, insofar as possible, the main residential areas surrounding the airport.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedures set forth below and illustrated on the accompanying chart should be followed unless otherwise instructed by Air Traffic Control.

Preferential Runways - Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operations, from flight over residential areas adjacent to the airport. The tower will assign runways in the following order of preference whenever practicable:

- (a) Take-offs: 23L, 32, 14, 05R, 28
- (b) Landings: 05R, 14, 32, 23L, 10

Maximum effective wind components for use in selecting the preferential runway:

- (i) The maximum effective crosswind component for take-offs and landings should not exceed 15 knots.
- (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
- (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above, shall only be made at the discretion of the pilot.

DEPARTURE PROCEDURES

- (a) When weather is not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways until reaching at least 2,000 feet above ground level, i.e., the climb profile for each type of aircraft should be such as to give the best possible performance consistent with safety of operations and noise abatement. The initial power reduction should be made prior to reaching residential areas as determined either visually or by time calculation.
- (b) Departing aircraft shall make a straight climb-out on the runway heading until reaching at least 3,000 feet ASL before proceeding on course.

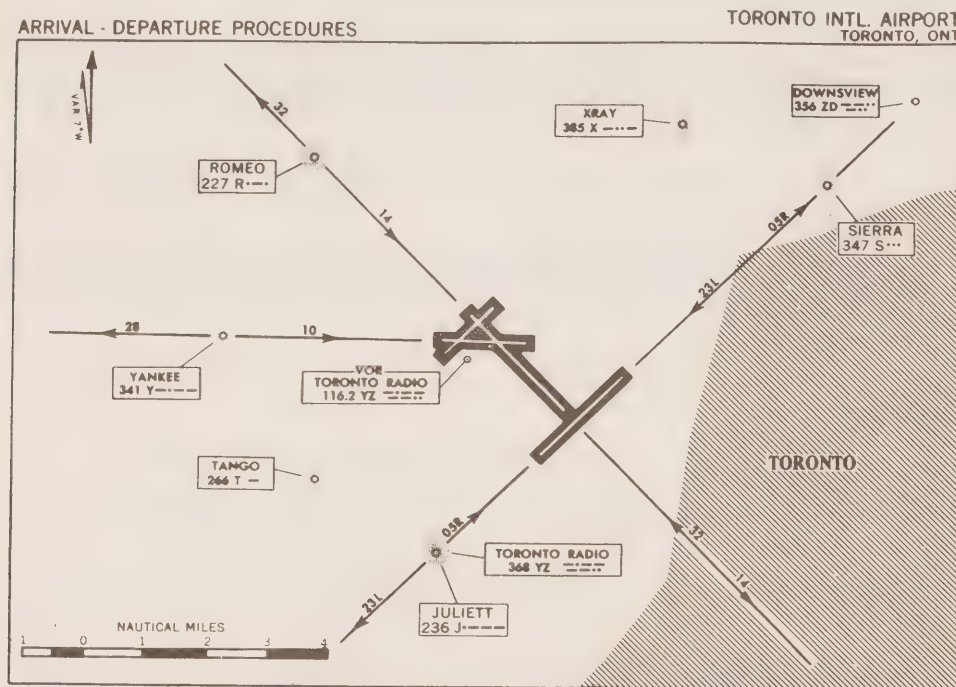
ARRIVAL PROCEDURES

- (a) When weather conditions permit, the minimum circuit height shall be 2,000 feet above airport elevation. Aircraft approaching for a landing shall maintain an initial approach altitude not below 2,500 feet ASL and should hold this altitude as long as possible before commencing final descent to the runway. During final approach every effort should be made to remain on or slightly above the approach slope angle as provided by the ILS Glide Path, VASIS or PAR.

- (b) Turns onto final approach shall be completed not less than 6 NM from the threshold of the runway to be used. For runway 32, this manoeuvre shall be completed over Lake Ontario before crossing the shoreline inbound.
- (c) The use of thrust and the selection of gear and flap settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement during the approach-to-land manoeuvre.
- (d) Airport circuit direction shall be as follows:

Runways 32, 10, 05R - Left Hand
Runways 14, 23L, 23R, 28 - Right Hand

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.



Produced by the Surveys and Mapping Branch,
Department of Energy, Mines and Resources, Ottawa.

TORONTO ISLAND, ONT.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 06, 08 and 15.

Caution: Building 1134 feet ASL - 1.25 miles NE.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

VAL d'Or, QUE.

VAL d'Or CLIMB CORRIDOR - The Val d'Or Climb Corridor, is centred on the 030°M radial of the Val d'Or TACAN and is contained within the following co-ordinates:

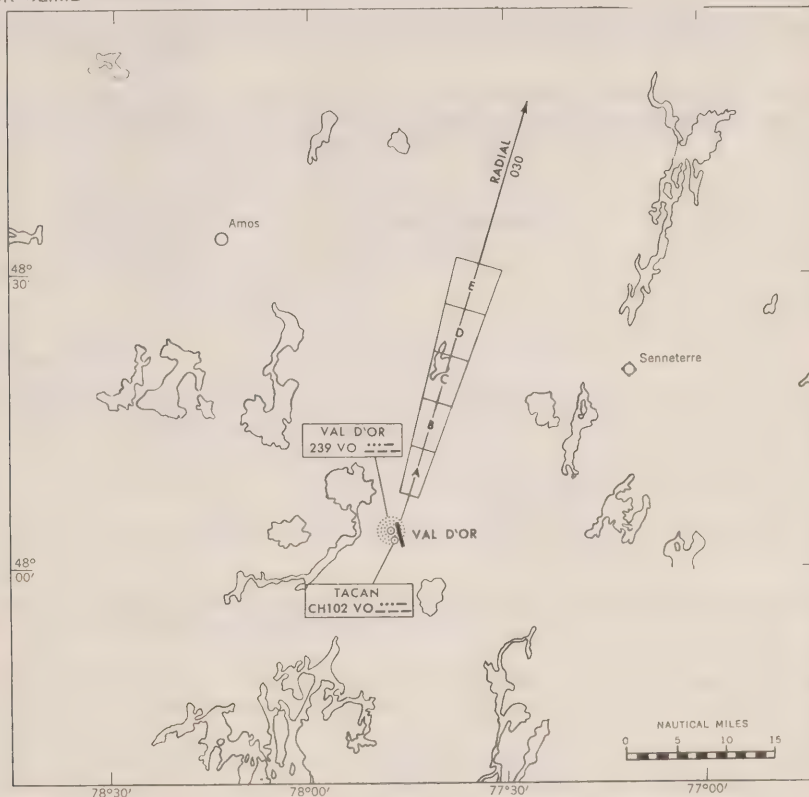
48° 08'15"N	77° 46'40"W
48° 32'35"N	77° 37'40"W
48° 31'05"N	77° 30'30"W
48° 07'40"N	77° 43'35"W

The airspace envelope associated with the Val d'Or Climb Corridor is:

Within Area "A", from 2,000 feet ASL to Flight Level 250
Within Area "B", from 6,000 feet ASL to Flight Level 250
Within Area "C", from 11,000 feet ASL to Flight Level 250
Within Area "D", from 15,000 feet ASL to Flight Level 250
Within Area "E", from Flight Level 180 to Flight Level 250

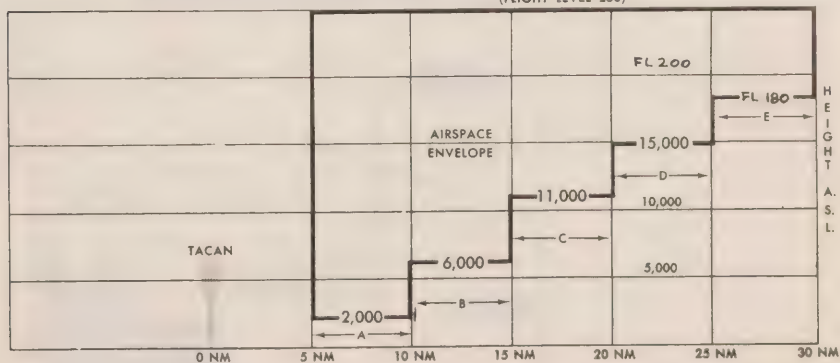
(see accompanying charts)

VAL D'OR CLIMB CORRIDOR



PROFILE OF AIRSPACE ENVELOPE ASSOCIATED WITH THE
VAL D'OR CLIMB CORRIDOR

(FLIGHT LEVEL 250)



High performance aircraft using the Climb Corridor will climb from 3,000 feet ASL to Flight Level 250 within the airspace envelope.

Primarily, the Val d'Or Climb Corridor will be used by high performance military aircraft departing Val d'Or aerodrome. However, high performance civil aircraft may also use it, with the prior approval of Val d'Or Terminal Area Control.

Pilots of aircraft wishing to fly within the airspace envelope of the Val d'Or Climb Corridor should first communicate with Val d'Or Terminal Area Control.

WINDSOR, ONT.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SECTION 11 WINNIPEG TO PACIFIC OCEAN

ABBOTSFORD, B. C.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 06 and 36.

GLIDER OPERATIONS - Gliders will use the grass area parallel to the runway in use. Glider circuits will be flown opposite to the direction of the circuits flown by powered aircraft.

ALASKA HIGHWAY FLIGHT STRIPS

The following emergency flight strips along the Alaska Highway between Fort St. John, B. C. and Snag, Y. T., will be maintained for day operations only from May 1st to October 31st. From November 1st to April 30th, no winter maintenance will be carried out.

Sikanni Chief	Pon Lake
Prophet River	Burwash Landing
Pine Lake	Liard River
Squanga Lake	

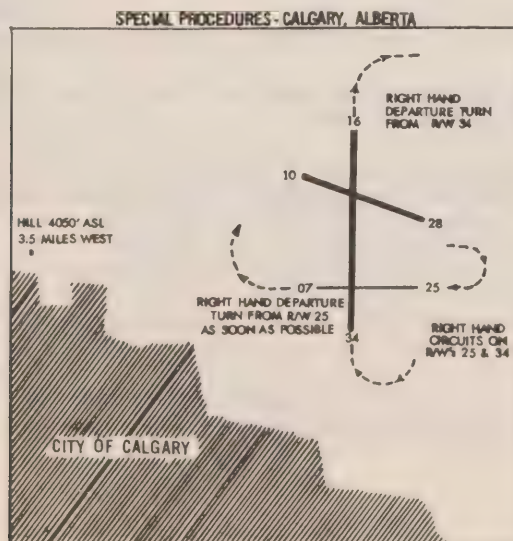
CALGARY AIRPORT, ALTA.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 25, 34 and the associated grass areas.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - The procedures set forth below are to be followed unless otherwise directed by Air Traffic Control:

- (a) Provided the ceiling is 1,500 feet or more above ground the minimum circuit height for all aircraft shall be 4,550 feet ASL.
- (b) Except while taking off or landing, aircraft shall refrain from flying over populated areas of the city at an altitude of less than 4,550 feet ASL.
- (c) Aircraft departing on runway 25 should begin a right turn as soon as possible, but normally not below 600 feet AGL, in order to avoid built-up areas to the west of the airport.



CAMBRIDGE BAY, N. W. T.

Limited facilities only are available at the Cambridge Bay airport, N. W. T.

Aircraft operators desiring to conduct a continuous operation from Cambridge Bay are advised to contact the local Imperial Oil Agent in order to ensure sufficient fuel and oil is available.

Aircraft owners and/or operators proposing to visit the site regardless of the length of the stop-over, should make prior inquiries through the Imperial Oil Agent regarding sleeping accommodation and meals.

In the event of an emergency or by prior arrangement, the Department of Indian Affairs and Northern Development may be able to provide assistance with respect to local transportation, meals and sleeping accommodation for itinerants. All inquiries are to be directed to the:

Area Administrator,
Department of Indian Affairs and Northern Development,
Cambridge Bay, Northwest Territories.

To assist operators desiring to ship supplies to Cambridge Bay, the latest date for the acceptance of goods at the following shipping points are:

Waterways, Alta.	- not later than June 15th
Hay River, N. W. T.	- not later than July 15th
Norman Wells, N. W. T.	- not later than July 20th
Tuktoyaktuk (Tuk-Tuk), N. W. T.	- not later than July 25th

Operators shipping such supplies are reminded that these dates are approximate only and all inquiries regarding accurate schedules, etc., should be directed to the:

Traffic Manager,
Northern Transportation Co. Ltd.,
10040 - 105 Street,
Edmonton, Alberta.

Day-Glo markers have been installed on the approach centreline to runways 09 and 27, also at the threshold to runway 09 at Cambridge Bay airport.

CASTLEGAR, B. C.

Right hand circuits are in effect for runway 15.

COLD LAKE, ALTA.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within a radius of 60 NM of the military aerodrome at Cold Lake, Alta.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 60 miles of Cold Lake, Alta., unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Cold Lake Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Cold Lake Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this area is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military aerodrome at Cold Lake.

The foregoing does not apply to that part of the Primrose Lake, Alta. and Sask. Restricted Area lying within 60 miles of Cold Lake. No aircraft may be flown within the Primrose Lake Restricted Area except with the permission of the Control Tower, Cold Lake (Air Navigation Order, Series V, No. 9).

Primary communication frequencies are as follows:

Cold Lake Tower - 121.5, 126.2, 3023.5R and 212T.

IFR OPERATIONS - Due to extensive military air operations within the Cold Lake Terminal Control Area and the Primrose Lake Restricted Area (CYR204), operation of civil IFR aircraft through these areas cannot normally be approved and must frequently be rerouted by Air Traffic Control.

It is recommended that pilots plan flight along routes which will by-pass these areas. Unless designated airways are used, pilots should select tracks which are separated from these areas by at least 45 NM for flight above Flight Level 230 or clear of the areas for flight at Flight Level 230 or below.

COMOX, B. C.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within the Comox Control Zone (5 statute miles radius of the aerodrome, Comox, B. C.).

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within this Control Zone unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Comox Control Tower; and
- (c) a listening watch is maintained on a frequency assigned by the Comox Control Tower.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within this Control Zone is cautioned to exercise extreme vigilance; to remain well clear of cloud and well clear of the military aerodrome at Comox.

The foregoing does not apply to aircraft using the Courtenay Air Park aerodrome and the Comox Harbour Water aerodrome provided:

- (a) these aircraft do not operate above 1,000 feet ASL; and
- (b) all flights are confined to the airspace south of a line joining the mouth of the Courtenay River, the Naval Base on Goose Spit and the Comox Control Zone boundary as depicted below.



Primary radio frequencies to be used for communicating with Comox Control Tower are as follows:

126.2, 118.4T, 122.5R, 3023.5R, 278T.

NOTE: Comox terminal radar is frequently unreliable under conditions of precipitation. Pilots should be prepared to accept delays and complete their approach without radar assistance under these conditions.

SPECIAL NOTE: Pilots landing on runway 18 are warned of a rise at the intersection of runway 18 and 11-29, 1,000 feet from the threshold of 18. Runway rises approximately 18 inches for a distance of 150 feet.

DRUMHELLER, ALTA.

Right hand circuits are in effect for runway 16.

EDMONTON INDUSTRIAL AIRPORT, ALTA.

Light aircraft using the grass area for landings and take-offs at the Edmonton Industrial airport are to make right hand circuits when runways 15 or 29 are in use for other aircraft.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - In order to minimize the noise disturbance created by aircraft operations, the procedures set forth below are to be followed unless otherwise directed by Air Traffic Control:

Runways 11 and 21 - No "touch-and-go" landings or take-offs are permitted on these runways or on the adjacent grass areas.

Runway 15-33 is to be used during calm (no wind) conditions.

Runway 29 - Aircraft gross weight for landing is restricted to 30,000 lbs.

Runway 11 - Aircraft gross weight for landing and take-off is restricted to 12,500 lbs.

The ILS Missed Approach Procedure is to be commenced at the Middle Marker, as published in the Canada Air Pilot. No descent below the published minimum altitude is permitted on practice approaches unless a full-stop landing is intended.

EDMONTON INT'L AIRPORT, ALTA.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

GIBSONS-SECHELT, B.C.

Right hand circuits are in effect for runway 11.

GIMLI, MAN.

Unless otherwise authorized, right hand circuits are in effect for runways 32R and 14R.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within the Gimli Control Zone and Terminal Control Areas.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within these areas unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Gimli Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Gimli Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military aerodrome at Gimli.

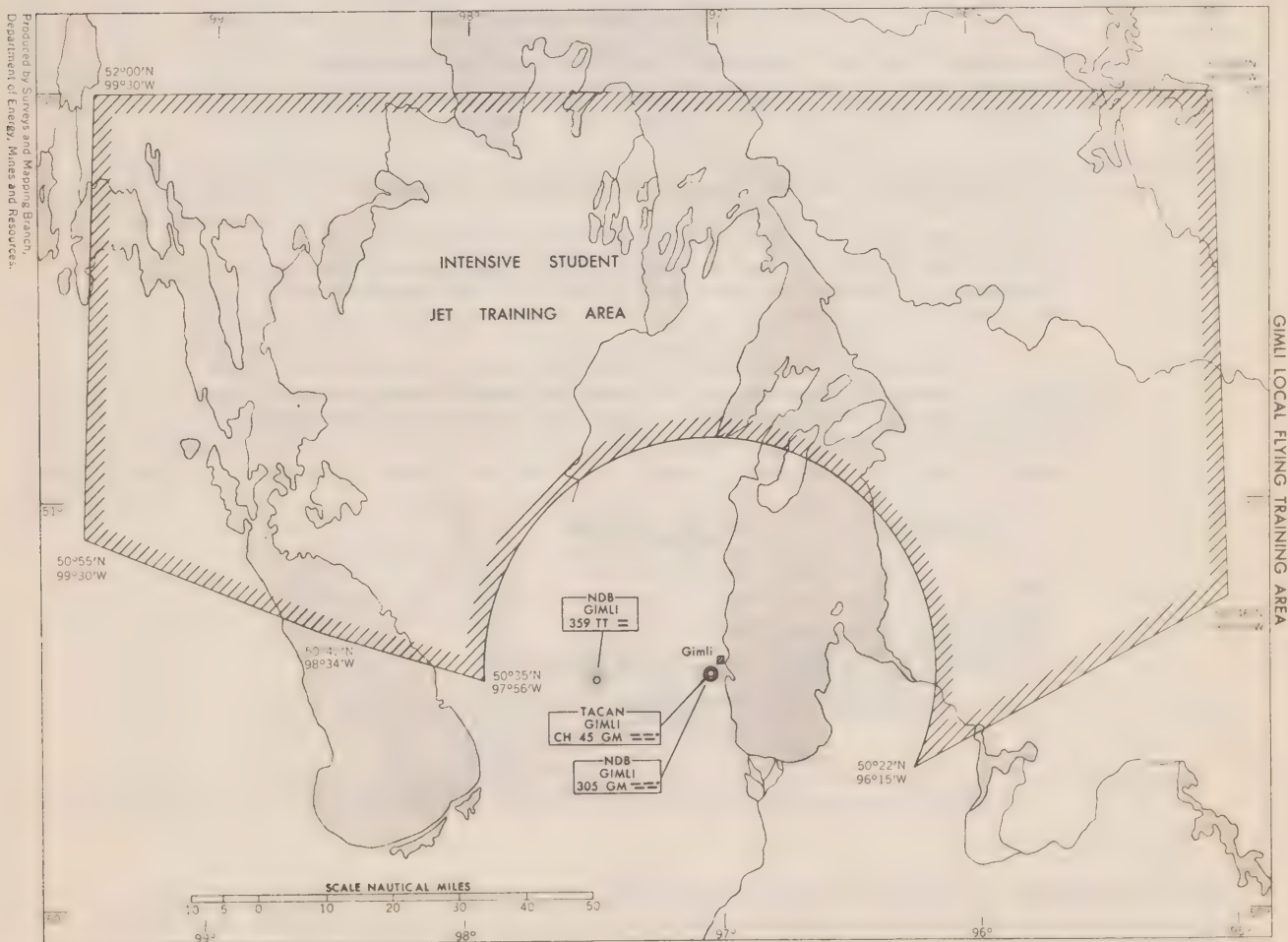
Primary communication frequencies are as follows:

Gimli Terminal Control - 118.7, 228.2
Gimli Tower - 121.5, 126.2, 236.6, 366.4, 243.0

GIMLI LOCAL FLYING AREA - Extensive flying training including aerobatics, formation flying and other manoeuvres are carried out in the Gimli Local Flying Area from ground level to FL 230, and in the MFA above FL 230 as depicted in the Designated Airspace Handbook and Enroute High Altitude charts GPH 207. The Gimli Local Flying Area is contained within the following co-ordinates and boundaries:

52°00'N	99°30'W
52°00'N	95°00'W
50°46'N	95°00'W
50°22'N	96°15'W thence the northern
boundary of Gimli Control Area to	
50°35'N	97°56'W
50°42'N	98°34'W
50°55'N	99°30'W to the point of beginning.

The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Gimli Control Tower or Terminal Control for Flight Advisory Service.



HAY RIVER, N. W. T.

Right hand circuits are in effect for runways 16 and 21.

HOPE, B. C.

GLIDER AND GYROPLANE OPERATION - Pilots operating in the vicinity of the Hope airport (49°22'N, 121°29'W) should watch for gliders and gyroplanes operating in the area on week-ends and holidays up to an altitude of 12,000 feet ASL.

These aircraft will be utilizing the area north of the runway centreline for take-offs and landings. Conventional aircraft should use the half of the runway south of the centreline.

KAMLOOPS, B. C.

For daytime operations right hand circuits are in effect for runways 04, 22 and 26.

RADIO PROCEDURES - When Kamloops Tower is not in operation, contact Kamloops Radio on 122.2 or 126.7 and continue to monitor one of these frequencies. Large aircraft compelled to make straight-in approaches are requested to call 5 miles out on final and advise intentions.

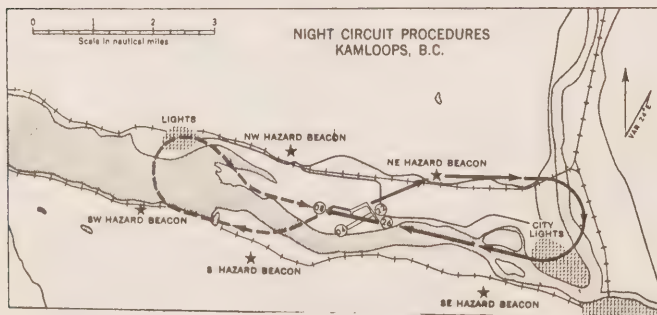
SPECIAL PROCEDURES - Due to extensive landplane, seaplane and helicopter traffic, in the interest of flight safety, strict adherence to the procedures outlined below is recommended.

DAY -

- (a) Seaplane arrivals are to conform to the land airport traffic pattern.
- (b) Seaplane departures are not to climb or turn North until well clear of the land airport circuit.

NIGHT -

- (a) Only pilots familiar with the local terrain should use this airport during the hours of darkness.
- (b) Night operations are not authorized unless all 5 hazard beacons are operating and unless all 5 beacons are visible to pilots in the circuit.
- (c) Circuit procedures outlined below and as depicted in the accompanying sketch are to be followed:
 - (i) Runway 08 - Aircraft are to follow the solid line then the broken line.
 - (ii) Runway 26 - Aircraft are to follow the broken line then the solid line.
 - (iii) Turns must be completed within the perimeter of the lights at an altitude not below 2,130 feet ASL.



VFR OPERATIONS - Pilots operating in accordance with visual flight rules are requested to avoid flying over the Provincial Minimum Security Gaol located at Raleigh, B. C. (50°49'25"N, 120°17'05"W), approximately 10 miles north of Kamloops, at less than 1,000 feet above ground, 2,177 feet ASL.

KIMBERLEY, B. C.

Execute right turn following take-off from runway 33.

LANGLEY, B. C.

Unless otherwise authorized, right hand circuits are in effect for runway 25.

MOOSE JAW, SASK.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect:

- (a) During the hours of daylight - for runways 28R, 10R, and 03, and
- (b) During the hours of darkness - for runways 10 and 03.

Aircraft taking off or landing must be equipped with a serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within the Moose Jaw Control Zone and Terminal Control Area.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within these areas unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Moose Jaw Control Tower or Terminal Control Unit; and
- (c) a listening watch is maintained on a frequency assigned by the Moose Jaw Control Tower or Terminal Control Unit.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military aerodrome at Moose Jaw.

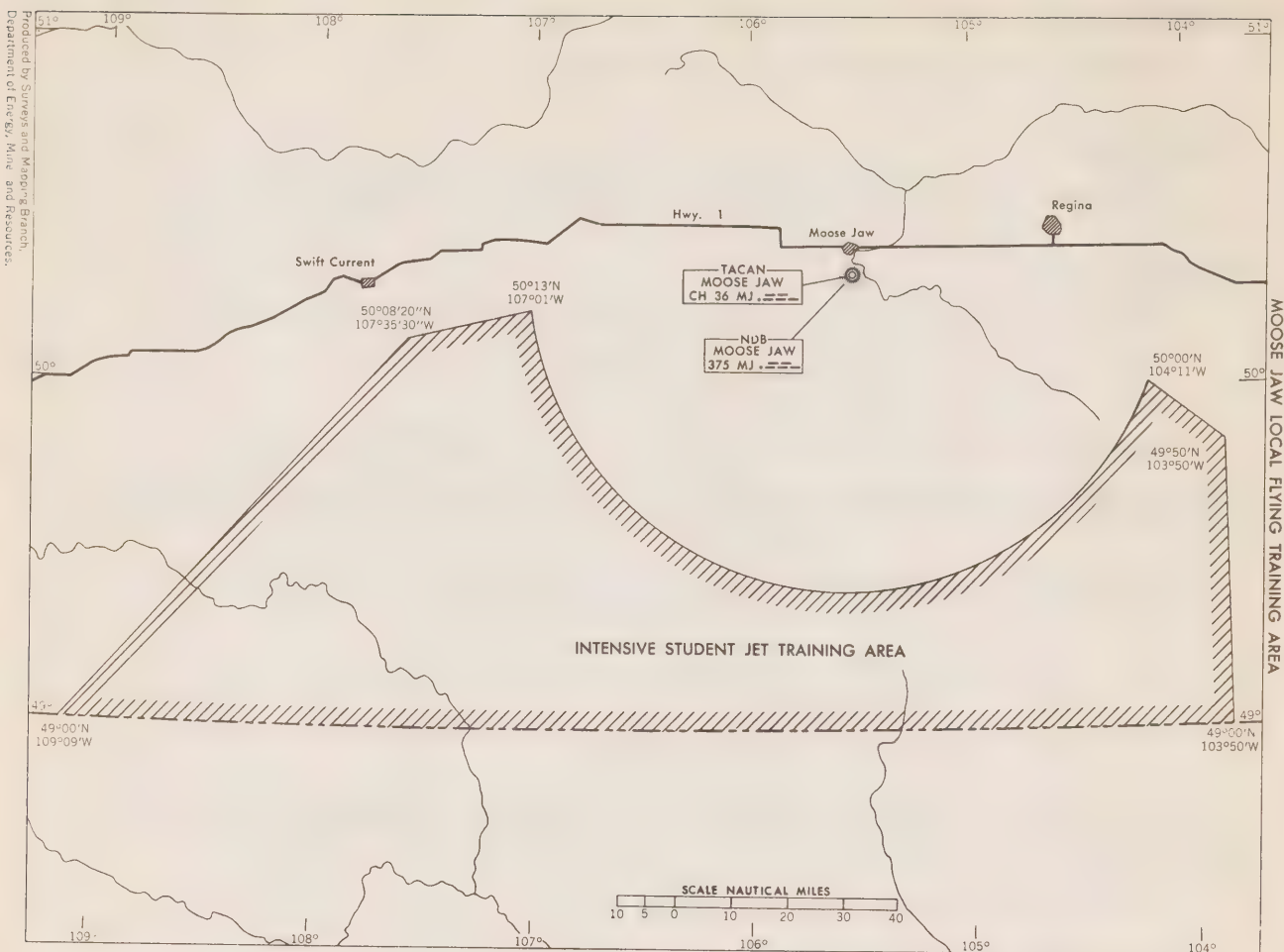
Primary communication frequencies are as follows:

Moose Jaw Terminal Control	- 123.7, 227.6
Moose Jaw Tower	- 121.5, 126.2, 236.6, 243.0

MOOSE JAW LOCAL FLYING AREA - Extensive flying training including aerobatics, formation flying and other manoeuvres are carried out in the Moose Jaw Local Flying Area from ground level to FL 230 and in the MFA above FL 230 as depicted in the Designated Airspace Handbook and Enroute High Altitude charts GPH 207. The Moose Jaw Local Flying Area is contained within the following co-ordinates and boundaries:

50°08'20"N	107°35'30"W
50°13'N	107°01'W thence by the southern
boundary of the Moose Jaw Terminal Control Area to	
50°00'N	104°11'W
49°50'N	103°50'W
49°00'N	103°50'W on the Canadian/U.S.
border; thence along said boundary to 109°09'W to the	
point of beginning.	

The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Moose Jaw Control Tower or Terminal Control for Flight Advisory Service.



NAMAO, ALTA.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 20 and 29.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

NANAIMO, B. C.

Right hand circuits are in effect for runway 34.

PENTICTON, B. C.

Right hand circuits are in effect for runway 34.

PORTAGE LA PRAIRIE, MAN.

Unless otherwise authorized, right hand circuits are in effect for runways 01, 12R, 26 and 30R.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within the Portage la Prairie Control Zone and Terminal Control Area.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within these areas unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) a clearance has been received from Portage la Prairie Control Tower or Terminal Control; and
- (c) a listening watch is maintained on a frequency assigned by the Portage la Prairie Control Tower or Terminal Control.

The pilot-in-command of an aircraft without a two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military aerodrome at Portage la Prairie.

Primary communication frequencies are as follows:

Portage Terminal Control	- 138.51, 358.4
Portage Tower	- 121.5, 126.2, 236.6, 243.0

PORTAGE LA PRAIRIE LOCAL FLYING AREA - Extensive flying training including aerobatics, formation flying and other manoeuvres are carried out in the Portage la Prairie Local Flying Area from ground level to FL 230 and in the MFA above FL 230 as depicted in the Designated Airspace Handbook and Enroute High Altitude charts GPH 207. The Portage la Prairie Local Flying Area is contained within the following co-ordinates and boundaries:

50°14'N	102°35'W
49°49'N	99°57'W
49°56'N	99°10'W thence by the southern
boundary of the Portage la Prairie Terminal Control Area to	
49°32'N	97°38'W
49°00'N	97°35'W
49°00'N	103°02'W to the point of beginning.

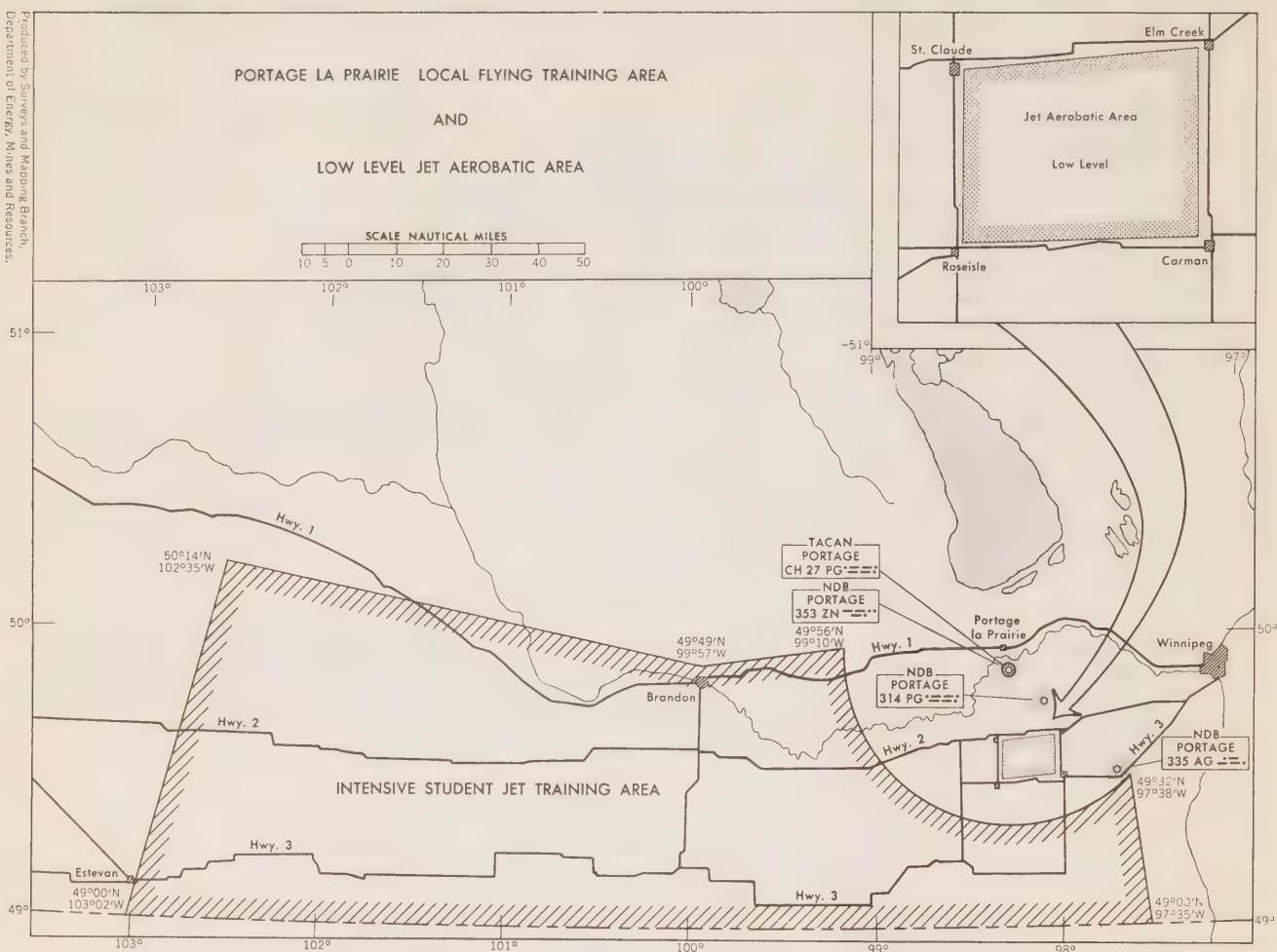
The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Portage Tower or Portage Terminal for Flight Advisory Service.

MILITARY JET LOW LEVEL AEROBATIC AREA - Intensive jet solo and formation aerobatics will be conducted from LOW LEVEL to 10,000 feet ASL within the area depicted on the accompanying chart.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with Visual Flight Rules in the aerobatic area because of intensive low level jet aerobatic training.

Normally, the aerobatic training will be conducted during daylight hours from Monday to Friday. Advice as to whether the area is occupied may be obtained from Portage Tower or Portage Terminal on:

121.9, 126.2, 137.7, 396T



POWELL RIVER, B. C.

Right hand circuits are in effect for runway 09.

PUNTZI MOUNTAIN, B. C.

The DND aerodrome at Puntzi Mountain, B. C. , is restricted to use by military aircraft only.

QUESNEL, B. C.

Right hand circuits are in effect for runway 12.

RED DEER, ALTA.

GLIDER OPERATIONS - Red Deer Industrial airport is periodically the scene of extensive glider flying. Pilots of glider and tow planes are to take off and land on the right hand runway and make right hand circuits.

Pilots of powered aircraft, other than tow planes, are to land and take off on the left hand runway and make left hand circuits. Pilots of visiting aircraft should call Penhold Radio for arrival information and should avoid the airspace immediately adjacent and to the right of the runways in use, below an altitude of 2,000 feet above the ground.

REGINA, SASK.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 07 and 12.

SPECIAL PROCEDURES - The use of hard surface runways is restricted to aircraft with functioning two-way radio. NORDO and RONLY aircraft are to land and take off using the grass area North of the runways.

RIVERS, MAN.

Unless otherwise authorized, right hand circuits are in effect for runways 09, 13 and 20.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within 5 statute miles of the Rivers aerodrome. In addition extensive helicopter operations are carried out, from ground level to 3,000 feet AGL, within 20 statute miles of the Rivers aerodrome, excluding all populated areas and the Brandon Control Zone.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with Visual Flight Rules within these areas unless:

- (a) the aircraft is equipped with serviceable two-way radio;
- (b) Flight Advisory information has been received from Rivers Control Tower; and
- (c) a listening watch is maintained on a frequency assigned by the Rivers Control Tower.

The pilot-in-command of an aircraft without two-way radio who cannot avoid flying within these areas is cautioned to exercise extreme vigilance, to remain well clear of cloud and well clear of the military aerodrome at Rivers.

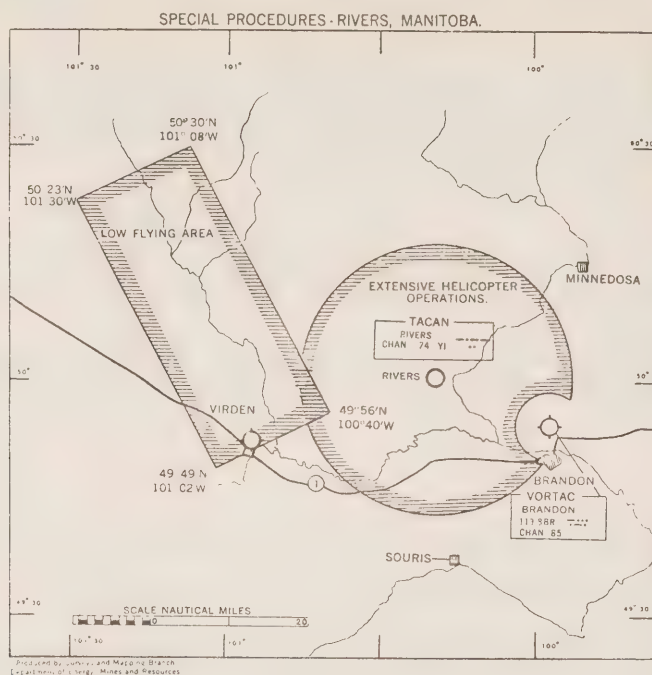
Primary communication frequencies are:

121.5, 126.2, 243.0, 236.6 MHz.

RIVERS LOW FLYING AREA - Extensive low level reconnaissance and photo sorties are conducted by jet aircraft below Airways at a minimum of 50 feet above the highest object known, within the area contained within the following co-ordinates and boundaries, excluding the Town of Virden and the Virden aerodrome:

49° 49'N	101° 02'W
50° 23'N	101° 30'W
50° 30'N	101° 08'W
49° 56'N	100° 40'W to the point of beginning.

The pilot-in-command of an aircraft in the above area is requested to exercise extreme vigilance and contact Rivers Control Tower for Flight Advisory Service.



SASKATOON, SASK.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 14 and 26.

Aircraft taking off or landing must be equipped with serviceable two-way radio unless otherwise authorized by Air Traffic Control. NORDO and RONLY aircraft are allowed to operate if authority is granted by the Air Traffic Controller on duty, prior to the intended flight.

SHAUNAVON, SASK.

Right hand circuits are in effect for runways 20 and 30.

SHEPARD, ALTA.

The former aerodrome at Shepard, Alta., (50° 57' N, 113° 58' W) is used for automobile racing. It is not to be used by aircraft except in an emergency and landings will be at the risk of the aircraft operator.

VANCOUVER INT'L AIRPORT, B. C.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 12 and 08. Right hand circuits are also used by aircraft taking off or landing in an easterly direction on the river.

Aircraft operating within the control zone must be equipped with serviceable two-way radio.

No initial flight training is permitted at Vancouver International airport. The use of the taxiway connecting runways 11 and 20 for landings or take offs is not permitted.

VICTORIA INT'L AIRPORT, B. C.

Aircraft operating within the control zone must be equipped with serviceable two-way radio.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runway 20.

VULCAN, ALTA.

Right hand circuits are in effect for runway 23.

WAINWRIGHT, ALTA.

Right hand circuits are in effect for runway 30.

WHITEHORSE, Y. T.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 31L and 31R.

WINNIPEG INT'L AIRPORT, MAN.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 13, 18 and 25. Circuit height 2,000 feet ASL.

Aircraft taking off or landing must be equipped with serviceable two-way radio.

FLIGHT PRECAUTIONS - VFR TRAFFIC - Extensive VFR traffic operates between Winnipeg International airport and the St. Andrews airport which is located 12 NM Northeast of the Winnipeg International airport.

It is therefore strongly recommended that all pilots exercise extreme vigilance when operating in this area.

SPECIAL PROCEDURES - WINNIPEG AND ST. ANDREWS AIRPORT CONTROL ZONES

As a step toward the implementation of an Extended Control Service, the following procedures apply within the Winnipeg and St. Andrews airport Control Zones, with effect from April 1st, 1968.

WINNIPEG INTERNATIONAL AIRPORT CONTROL ZONE

Pilots must establish and maintain radio communication with Winnipeg Control Tower prior to operating within the Winnipeg Control Zone. The Winnipeg Control Zone is defined as that airspace extending upwards from the surface of the earth to and including 5,000 feet ASL within a radius of 9 nautical miles centred at the Winnipeg International airport. Unless otherwise instructed by the Winnipeg Control Tower, the circuit height for aircraft approaching to land is 2,000 feet ASL.

ST. ANDREWS AIRPORT CONTROL ZONE

There is no mandatory requirement for two-way radio within the St. Andrews Control Zone. However, it is strongly recommended that pilots operating aircraft equipped with two-way radio establish and maintain communication with the St. Andrews Control Tower. St. Andrews Control Zone is defined as that airspace extending upwards from the surface of the earth to and including 2,000 feet ASL within a radius of 4 nautical miles centred on the St. Andrews airport excluding that airspace within the Winnipeg Control Zone.

FLIGHT CORRIDOR - WINNIPEG INTERNATIONAL - ST. ANDREWS AIRPORTS

In order to expedite traffic between the Winnipeg and St. Andrews Airports, a corridor extending two nautical miles on either side of highway No. 8 and capped at 2,000 feet ASL has been established. Pilots flying between these two airports should fly to the right of the highway and shall contact Winnipeg Tower when crossing the perimeter highway southbound, or St. Andrews Tower when crossing the perimeter highway northbound (see accompanying chart). Aircraft taking off from Winnipeg International airport runways 25, 31, or 36, wishing to use the corridor should request a right turn and maintain 1,600 feet ASL until established on the right side of the centre-line of the corridor. Aircraft flying over the St. Andrews Control Zone or operating within the Winnipeg Control Zone in the vicinity of the corridor, should not fly below 2,500 feet ASL.

PRACTICE FLYING AREAS

Practice flying areas for light aircraft have been established and are depicted on the accompanying chart. These areas extend upwards from the surface of the earth to and including 5,000 feet ASL. It is recommended that other aircraft avoid these areas if practicable.

GENERAL

In order to reduce traffic crossing the Winnipeg International Airport, military flat break circuits shall no longer be approved.



NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES - This portion of the NOTAM shall be applicable to all types of turbojet aircraft. It establishes specific minimum operating altitudes, and specific direction of flight to avoid, insofar as possible, the main residential areas surrounding the airport. Pilots of all other types of aircraft, although exempt from these specific procedures, should apply good pilot technique for noise abatement.

All pilots shall refrain from practising circling procedure turns to runways 31 and 36.

Diligent application of these Noise Abatement procedures and recommended aircraft handling techniques during the take-off/climb and approach/landing manoeuvres will assist in reducing aircraft noise levels, not only at the nearest communities underlying the flightways, but also at residential areas farther away from the airport.

The procedure set forth below and illustrated on the accompanying chart should be followed unless otherwise instructed by Air Traffic Control:

Preferential Runways - Runways are designated in order of priority to divert as many take-offs and landings as possible, consistent with safety of operation, from flight over residential areas adjacent to the airport. The Tower will assign runways in the following order of preference whenever practicable:

- (a) Take-offs: 36, 31, 25, 18, 07, 13
- (b) Landings: 18, 13, 07, 36, 25, 31

Maximum effective wind components for use in selecting the preferential runway:

- (i) The maximum effective crosswind component for take-offs and landings should not exceed 15 knots.
- (ii) Downwind components up to 5 knots for take-offs and landings may be considered as calm air.
- (iii) Crosswind or downwind take-offs or landings, when the effective wind component is in excess of that specified above shall only be made at the discretion of the pilot.

DEPARTURE PROCEDURES

- (a) (i) When weather conditions are not a precluding factor, the approved Noise Abatement climb techniques shall be used from all runways except 31 and 36 until reaching at least 3,000 feet above ground level, i.e., the climb profile for each type of aircraft should be such as to give the best possible performance consistent with safety of operations and noise abatement. The initial power reduction should be made prior to crossing residential areas as determined either visually or by time calculation.
- (ii) Departing aircraft required to make a turn after take-off may commence such turn as soon as a safe manoeuvring speed is attained which normally will be at an altitude of not less than 600 feet above airport elevation.
- (b) (i) Runway 7 - Aircraft making a left turn out will be unrestricted, while aircraft proceeding in all other directions shall climb to 3,000 feet ASL before proceeding on course or turning to assigned heading.
- (ii) Runway 13 - Aircraft shall climb on the runway heading to 3,000 feet ASL before proceeding on course or turning to assigned heading.
- (iii) Runway 18 - Aircraft shall climb on the runway heading to 3,000 feet ASL before proceeding on course or turning to assigned heading.
- (iv) Runway 25 - Aircraft making a right turn out will be unrestricted while, aircraft proceeding in all other directions shall climb to 3,000 feet ASL before proceeding on course or turning to assigned heading.
- (v) Runways 31 and 36 - Unrestricted.

ARRIVAL PROCEDURES

- (a) When weather conditions permit, the minimum circuit height shall be 2,000 feet ASL. Aircraft approaching for a landing shall maintain circuit altitude and hold this altitude as long as possible before commencing final descent to the runway. During final approach every effort should be made to remain on or slightly above the approach slope angle provided by the ILS Glide Path, VASIS or PAR.
- (b) The use of thrust and the selection of flap and gear settings for different flight configurations of each type of aircraft should, consistent with safety of operations, be such as to give the best possible performance with respect to Noise Abatement during the approach-to-land manoeuvre.

NOTWITHSTANDING THE FOREGOING PROCEDURES, OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

(see accompanying chart)

NOTAM



24/68
1st September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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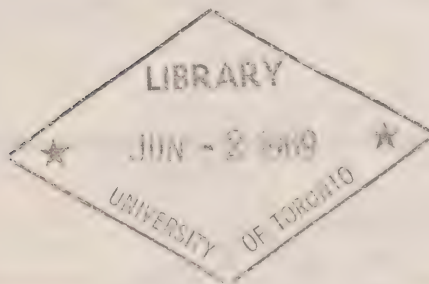
HAZARDS TO AIR NAVIGATION (Supplementing NOTAM 15/68)

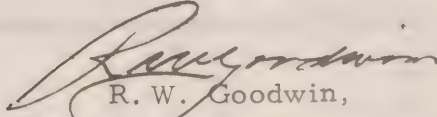
HELICOPTER LOW LEVEL NAVIGATION TRIALS

Canadian Armed Forces will conduct Helicopter Low Level Navigation Trials in the La Macaza/Montreal area depicted on the accompanying chart, during the period October 1st, 1968, to November 15th, 1968, inclusive.

Two or three large twin-rotor helicopters will operate under VFR conditions within the area at altitudes up to 3000 feet ASL from 1300 GMT to 2200 GMT daily except Sundays.

Pilots who cannot avoid flying over the area depicted are urged to exercise vigilance when flying at 3000 feet ASL or below during the periods when these trials are being conducted.




R. W. Goodwin,
Director, Civil Aviation.

HELICOPTER LOW LEVEL NAVIGATION TRIALS



Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

NOTAM



25/68
9th September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

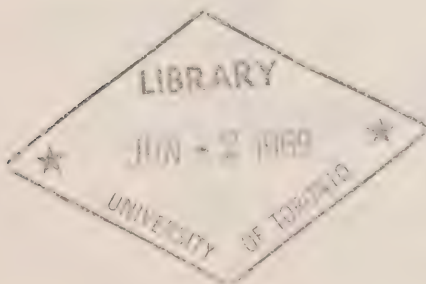
A large scale military air exercise to be known as Snow Time 69-1-E will take place over eastern Canada between 0330 hours and 1025 hours Greenwich Mean Time on October 10, 1968.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

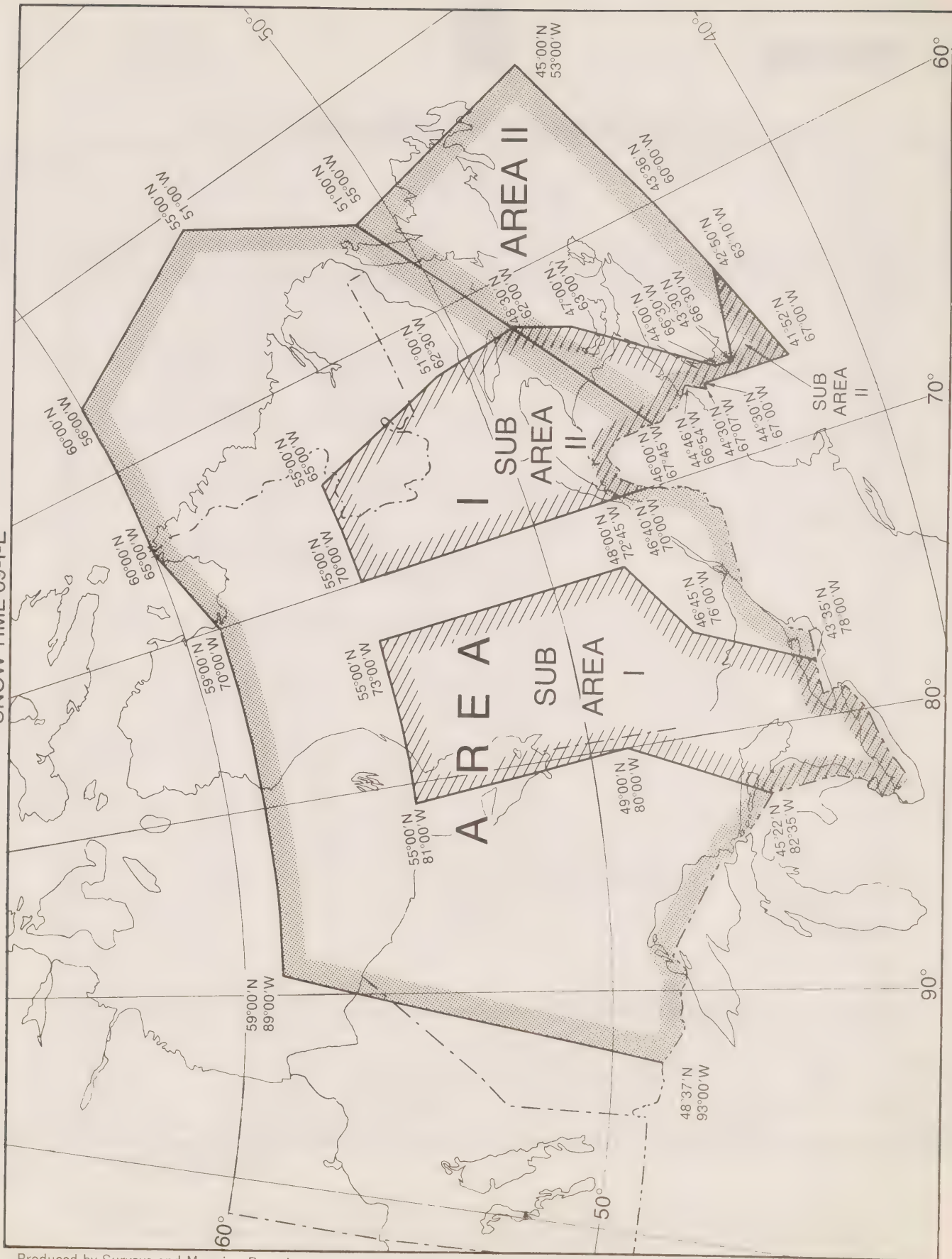
Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|-------------|---|
| AREA I | - between flight level 190 and flight level 450 between 0330 hours and 1015 hours Greenwich Mean Time on October 10, 1968. |
| SUB AREA I | - below flight level 190 between 0620 hours and 1015 hours Greenwich Mean Time on October 10, 1968. |
| AREA II | - between flight level 350 and flight level 410 between 0600 hours and 1025 hours Greenwich Mean Time on October 10, 1968, and;
- between flight level 190 and flight level 210 between 0400 hours and 0600 hours Greenwich Mean Time on October 10, 1968. |
| SUB AREA II | - below flight level 190 between 0515 hours and 0820 hours Greenwich Mean Time on October 10, 1968. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R. W. Goodwin
R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Hazards and Obstructions

26/68
15th September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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HAZARDS TO AIR NAVIGATION

(Supplementing and Amending NOTAM 15/68)

CONTENTS

SECTION I

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SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
BY PROVINCES

NOVA SCOTIA

Tall Structures 500 feet or higher
(Revision)

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(Addition)

PRINCE EDWARD ISLAND

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(Addition)

QUEBEC

Hazards to Aircraft Operations
(Deletion)

ONTARIO

Tall Structures 500 feet or higher
(Addition and Revision)

Parachute Jumping Area
(Addition)

MANITOBA

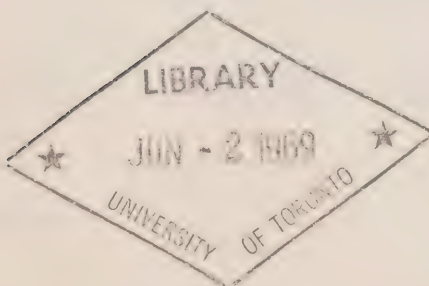
Rocket Launches from Churchill
(Revision)

BRITISH COLUMBIA

Special Notices
(Addition)

Parachute Jumping Area
(Addition)

Hazards to Aircraft Operations
(Addition)



NOVA SCOTIA

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
(Revision)

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
Giezers Hill, Halifax,	CJCH TV Tower	44°39'04"	63°39'51"	600'	1075'
	CBHT Radio Tower	44°39'01"	63°39'26"	500'	950'

RESTRICTED AREA
(Addition)

GLACE BAY,

No aircraft shall be flown over the Deuterium of Canada Heavy Water Plant, located in the vicinity of Glace Bay, N. S. at Latitude 46°10'N, Longitude 59°57'W, at an altitude below 2,000 feet ASL, or within a radius of one mile centered on the foregoing co-ordinates.

PRINCE EDWARD ISLAND

PARACHUTE JUMPING AREA
(Addition)

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at an altitude where parachutists might be encountered.

MOUNT PLEASANT AIRPORT,

From time to time in the vicinity of Mount Pleasant Airport, P.E.I. within a circle of two mile radius centered at 40°36'N, 64°01'W, descents are made from altitudes not exceeding 7500 feet ASL during daylight hours and are co-ordinated through Summerside Control Tower.

QUEBEC

HAZARDS TO AIRCRAFT OPERATIONS
(Deletion)

BAIE COMEAU,

Excavation blasting at Baie Comeau, P.Q. , as outlined on page 15 of NOTAM 15/68 has been discontinued.

ONTARIO

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
(Addition and Revision)

<u>AREA</u>	<u>STRUCTURE</u>	<u>SITE LOCATION</u>		<u>HEIGHT ABOVE GRADE</u>	<u>HEIGHT ABOVE SEA LEVEL</u>
		<u>LAT. N.</u>	<u>LONG. W.</u>		
<u>Addition</u> Milton,	CATV TV Tower	43°36'05"	79°47'50"	508'	1198'
<u>Revision</u> Toronto	Office Bldg.	43°38'51"	79°22'54"	801'	1079'

PARACHUTE JUMPING AREA
(Addition)

Pilots are cautioned to either avoid the following areas when parachute jumping is in progress or to exercise caution when flying in this area at altitudes where parachutists might be encountered.

MOUNT ALBERT AIRPORT,

From time to time in the vicinity of the Old Mount Albert Airport (44°12'N, 79°21'W), descents are made from altitudes not exceeding 9,500 feet ASL during daylight hours. When parachute jumping is in progress a large cross or X will be displayed on the field.

MANITOBA

ROCKET LAUNCHES FROM CHURCHILL
(Revision)

All operators and pilots are notified that test-firings of rocket propelled vehicles will take place from the vicinity of Churchill, Manitoba, intermittently throughout the year, with the main activity confined to the period November 1st to July 15th annually.

Dependent on the characteristics of each rocket, the trajectory will cross all altitudes up to approximately 600,000 feet during a period not exceeding 30 minutes from the time of launch. The point of impact will lie within one of the following areas:

- AREA "A" Is delineated by a line commencing at a point 58°56'N, 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence East to a point 57°20'N, 91°08'W; thence to 57°04'N, 90°00'W; thence due North to a point 59°46'30"N, 90°00'W; thence to the point of beginning.
- AREA "B" Is delineated by a line commencing at a point 59°46'30"N, 90°00'W; thence proceeding South to 57°04'N, 90°00'W; thence to 55°13'N, 82°30'W; thence to 55°28'N, 82°00'W; thence proceeding North to a point 61°27'N, 82°00'W; thence to the point of beginning.
- AREA "C" Is delineated by a line commencing at a point 55°28'N, 82°00'W; thence proceeding to 58°55'N, 78°28'W; thence due North to 63°15'N, 78°28'W; thence Westerly to 63°15'N, 83°00'W; thence to 60°21'N, 94°00'W; thence to 58°56'N, 94°00'W; thence to 59°46'30"N, 90°00'W; thence to 61°27'N, 82°00'W; and thence Southerly to the point of beginning.
- AREA "D" Is delineated by a line commencing at a point 63°15'N, 83°00'W; thence proceeding to 63°15'N, 90°00'W; thence to a point 60°21'N, 94°00'W; thence to the point of beginning.

It is planned that the majority of rockets launched will impact at a point within AREA "A". However, on occasion impact AREAS "B" "C" and "D" will be required. Insofar as it is feasible, radar and other devices and procedures will be used to exercise surveillance over the areas during the range operations. No rocket will be launched if it is known that an aircraft or ship is likely to be in a position as to be endangered by the trajectory or impact of a rocket.

A Class 1 NOTAM will be issued 24 hours in advance of each launch which will indicate the area within which the impact point lies. The airspace associated with the areas designated in Class 1 NOTAM will be released as soon as possible after impact is confirmed or if the operation is aborted. Every effort will be made to ensure minimum interference with aviation activities in the Hudson Bay region.

In view of the limited duration of each rocket and the safety precautions which are in effect, it is considered unnecessary for the areas to be designated as Danger Areas. Operators and pilots should watch for Class 1 NOTAM pertaining to rocket launches, and before traversing any part of the airspace over the areas described above, pilots should communicate with Churchill Radio or Winnipeg Air Traffic Control Centre, either directly or via the normal communication network.

BRITISH COLUMBIA

SPECIAL NOTICES
(Addition)

CLOVERDALE,

Model aircraft are being flown near Cloverdale, B.C. in an allotted area at 49°08'N, 122°45'W. The models have a wing span of 6 feet and weigh up to 8 LBS; they are radio controlled, are flown during daylight hours only, and attain a height of 734 feet ASL (700 feet AGL). Pilots practising forced landings in this area, are warned to keep a sharp lookout for these models.

PARACHUTE JUMPING AREAS
(Addition)

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

KAMLOOPS,

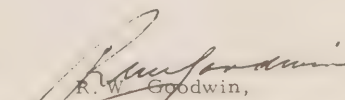
On Saturdays and Sundays only, during daylight hours, descents may be made from 8,500 feet ASL. If jumps are to be made above this altitude, clearance must be obtained from Kamloops Tower. The Jump area is located approximately 10 statute miles east of Kamloops airport at 50°44'12"N, 120°13'W.

HAZARDS TO AIRCRAFT OPERATIONS
(Addition)

The following is an addition to the list shown in NOTAM 15/68 of locations in British Columbia where open-pit mine or quarry blasting operations are conducted. The blasting operations are considered potentially hazardous to aircraft overflying these locations, as flying rock can attain a maximum height of approximately 3,000 feet AGL. The Department of Transport is unable to guarantee the completeness of the list and pilots are therefore warned that other such locations may exist. In addition the locations reported should be accepted by pilots as approximate rather than accurate positions.

In the interest of safety, caution should be exercised against overflying these locations at less than 3,000 feet AGL within a one mile radius.

<u>GENERAL AREA</u>	<u>SITE LOCATION</u>	
	<u>LAT. N.</u>	<u>LONG. W.</u>
Francois Lake, (NW end)	54° 02'	125° 03'
MacDonald Island,	54° 57'	126° 11'
Mica Creek Dam,	52° 04'	118° 34'
Pinchi Lake,	54° 25'	124° 37'


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Summary

27/68
1st October

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st OCTOBER, 1968

1966	1967	1968			
8/66	4/67	3/68	10/68	17/68	23/68
15/66	24/67	5/68	11/68	18/68	24/68
	25/67	6/68	14/68	21/68	25/68
	27/67		15/68		26/68
					27/68



21/66 superseded by 23/68
5/67 superseded by 23/68
16/67 superseded by 23/68
18/67 superseded by 23/68
19/67 superseded by 23/68
23/67 superseded by 23/68
24/67 incorporated into The Canada Air Pilot
"Water Aerodrome Supplement"
29/67 superseded by 21/68
19/68 superseded by 27/68
8/68 Time expired - September 30th, 1968
22/68 cancelled; promulgated in ANRA
October 1st, 1968

GENERAL

14/68 Prohibited, Restricted and Danger Areas Method of Identification

HAZARDS TO AIR NAVIGATION

15/68 Hazards to Air Navigation
24/68 Hazards to Air Navigation - Helicopter Low Level Navigation Trials
26/68 Hazards to Air Navigation - (Supplements and Amends 15/68)

CANADIAN AIRSPACE CHARACTERISTICS

25/67 Canadian Airspace Characteristics
5/68 Canadian Airspace Characteristics - Fraser Canyon VHF Communications Service
10/68 Edmonton Upper Flight Information Region (Amends 25/67)

LAND AERODROMES

18/68 Cranbrook Airport
23/68 Special Procedures and Facilities


TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

AIR TRAFFIC CONTROL PROCEDURES

8/66	Area Control Above FL 230
15/66	Special VFR Procedures - Vancouver International Airport
4/67	Air Traffic Control Procedures
27/67	Extended Terminal Control Service (Supplements 4/67)
3/68	Special Procedures in the Gander Oceanic Control Area (Supplements 4/67)
6/68	Air Traffic Control Holding Procedures (Supplements 4/67)
11/68	Edmonton Upper Flight Information Region (Amends 4/67)
17/68	New ICAO Flight Plan Form (Supplements 4/67)
21/68	Extended Terminal Control Service - Toronto, Ontario (Supplements 4/67 and 27/67)

TEMPORARY RESTRICTED AIRSPACE

25/68	Temporary Restricted Airspace - Snow Time 69-1-E (expires 1025 Hours GMT on October 10, 1968)
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R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Restricted Airspace

28/68
4th November

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Snow Time 69-2-C will take place over Canada between 0300 hours and 0940 hours Greenwich Mean Time December 12, 1968.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the areas depicted on the reverse side of this NOTAM as follows:

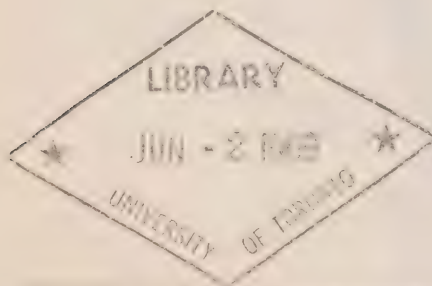
AREA I

- between flight level 230 and flight level 450 between 0300 hours and 0940 hours Greenwich Mean Time on December 12, 1968.

SUB AREA I

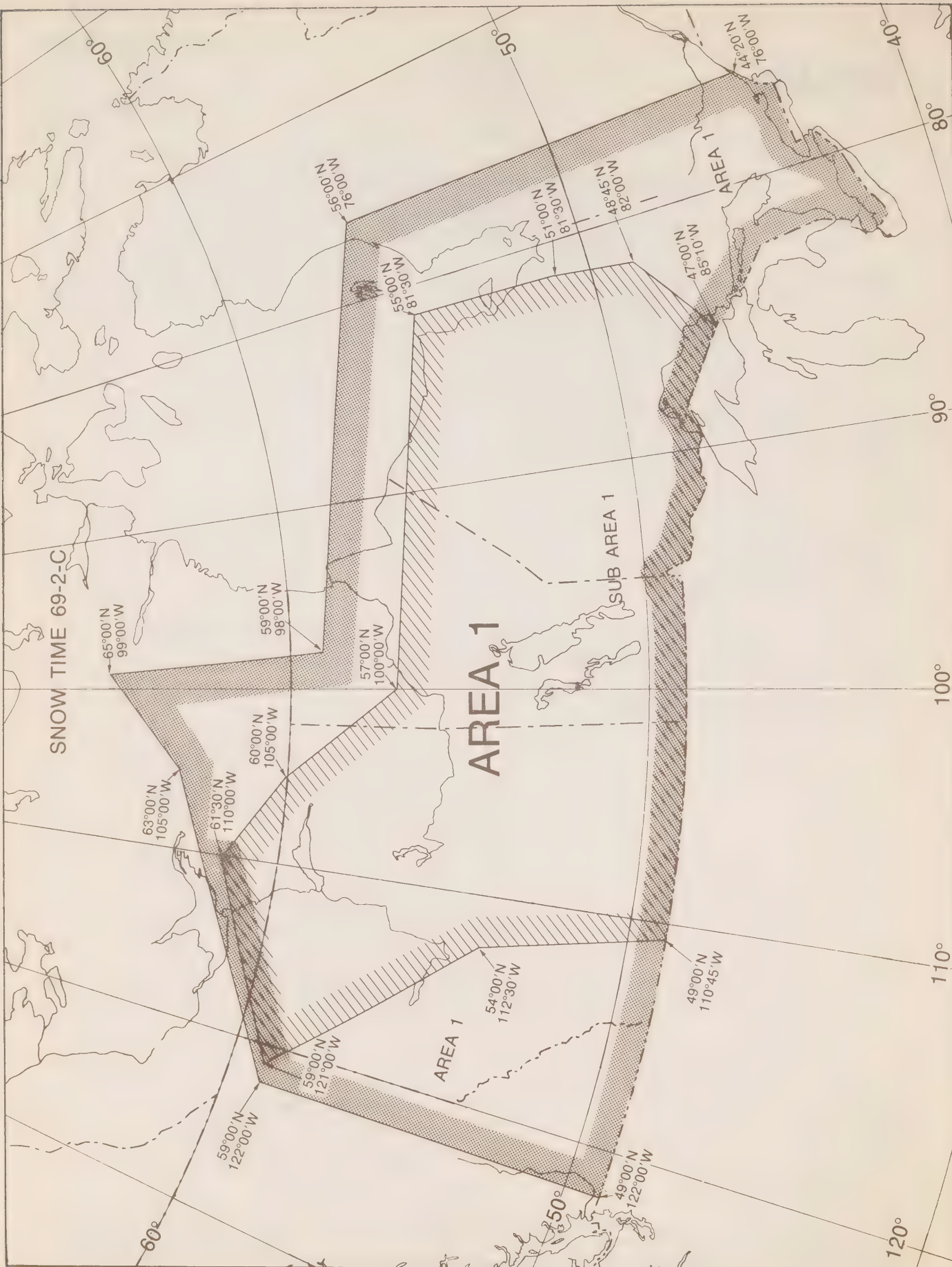
- below flight level 230 between 0530 hours and 0940 hours Greenwich Mean Time on December 12, 1968.

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.



R. W. Goodwin
(R. W. Goodwin),
Director, Civil Aviation.

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).



NOTAM



Hazards and Obstructions

29/68
25th November

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 4

HAZARDS TO AIR NAVIGATION

(Supplementing and Amending NOTAM 15/68)

CONTENTS

SECTION I

GENERAL HAZARDS

NIL

SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
BY PROVINCES

QUEBEC

Tall Structures 500 feet or higher
(Addition)

Temporary Flight - Test Area
(Revision)

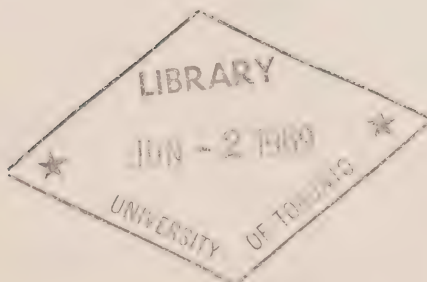
Parachute Jumping Areas
(Deletion)

BRITISH COLUMBIA

Transmission Line Crossings
(Revisions)

Parachute Jumping Areas
(Additions)

Hazards to Aircraft Operations
(Deletion)



SECTION TWO

Notam 29/68
Page 2 of 4

QUEBEC

TALL STRUCTURES 500 FEET OR HIGHER ABOVE GROUND LEVEL
CONSIDERED POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
(Addition)

AREA	STRUCTURE	SITE LOCATION		HEIGHT ABOVE GRADE	HEIGHT ABOVE SEA LEVEL
Malartic	CFCL TV Tower	LAT. N.	LONG. W.		
		48° 11' 58"	78° 07' 22"	583'	1100'

TEMPORARY FLIGHT - TEST AREA (Revision)

Paragraph (d), as shown on Page 13 of NOTAM 15/68, is amended to read as follows:

- (d) Supersonic flights will be made at altitudes 17000 feet and above and will be limited to the northern extremities of the area only.

PARACHUTE JUMPING AREAS (Deletion)

Sweetsburg Airport, Que. - as shown on Page 17 of NOTAM 15/68, is to be deleted in its entirety.

BRITISH COLUMBIA

TRANSMISSION LINE CROSSINGS

This list does not include all cable crossings but only the more hazardous crossings on the West Coast not published on charts. Pilots should take appropriate precautions when flying in the vicinity of these crossings.

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS OBSTRUCTION PAINTED	SHORE MARKERS	CONDUCTORS OR CABLES MARKED
Alice Arm Nass River	55° 22' N, 129° 02' W.	2500'	452'	30'	X		X
Barnett	49° 17' 30" N, 122° 55' 00" W.	2868'	334'	160'	X		X
Barnett	(note - two crossings at Barnett separated by $\frac{1}{2}$ mile) 49° 17' 30" N, 122° 54' 30" W.	3268'	540'	160'	X		X
Boston Bar	49° 52' N, 121° 27' W.	1019'	400'	100'	X		X
Bridge River	50° 47' 10" N, 122° 13' 55" W.	1964'	2424'	38'	X		X
Bridge River Kelly Lake	50° 46' N, 121° 53' W.	2235'	1022'	110'			markings undetermined
Clinton	51° 05' N, 121° 36' W.	1700'	3400'	300'	X		X
Cottonwood River	59° 09' N, 122° 23' W.	6014'	2562'	206'			X

TRANSMISSION LINE	SITE LOCATION LAT. LONG.	SPAN	HIGHEST PART OF SUPPORTING STRUCTURES ASL	LOWEST POINT SAG IN CABLE ABOVE SURFACE	TOWERS OBSTRUCTION PAINTED	SHORE MARKERS	CONDUCTORS OR CABLES MARKED
Finlayson Arm	48°30'05"N, 123°32'40"W.	3450'	830'	240'	X		X
(note - 2 spans in parallel at Finlayson Arm)							
Fraser River	50°45'N, 121°56'W.	2201'	1132'	348'	X		X crossing at Bridge River
Harrison River	49°18'10"N, 121°48'30"W.	3694'	900'	560'	X	X	X
Indian Arm Bedwell Bay	49°19'40"N, 122°55'30"W.	9673'	529'	160'	X		X
Kamloops	50°39'30"N, 120°02'15"W.	1462'	1208'	35'	X	X	X
Kamloops Spence Bridge	50°25'30"N, 121°20'00"W.	1034'	1210'	130'	X		X
Lower Arrow Lake	49°54'N, 118°03'W.	5625'	2635'	116'	X		X
Lytton Fraser River	50°46'N, 121°38'W.	2360'	1159'	348'	X		X
Sansum Narrows	48°49'40"N, 123°35'00"W.	6841'	959'	200'	X	X	X
Seton Lake	50°43'N, 122°16'W.	4400'	1572'	65'	X	X	X
Seymour Narrows	50°07'55"N, 125°21'10"W.	3228'	350'	160'	X		X
Skeena River	54°10'40"N, 129°37'10"W.	6000'	100'	30'	X		X
Skeena River	54°12'N, 129°55'W.	8000'	150'	35'	X		X

SPECIAL NOTICES

PARACHUTE JUMPING AREAS

(Additions)

Abbotsford,

From time to time in an area 9 NM Northwest of Abbotsford Airport, within a circle of two mile radius centered at 49°09'30"N, 122°27'20"W, descents are made from altitudes not exceeding 7000 feet ASL on weekends and holidays, from 1100 hours local time until 2 hours after dark.

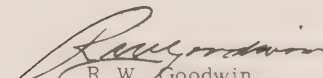
Quesnel,

From time to time in an area 7 NM West of Quesnel Airport, within a circle of two mile radius centered at 53°05'N, 122°40'W, descents are made from altitudes not exceeding 9200 feet ASL, on week days Monday through Friday from 1500 hours local time until dark, and on weekends from 0900 hours local time until dark.

HAZARDS TO AIRCRAFT OPERATIONS

(Deletion)

Mt. Washington, B. C. (49°42'N, 125°14'W) as shown on Page 28 of NOTAM 15/68 is to be deleted in its entirety.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Aerodromes - Water

30/68
2nd December

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

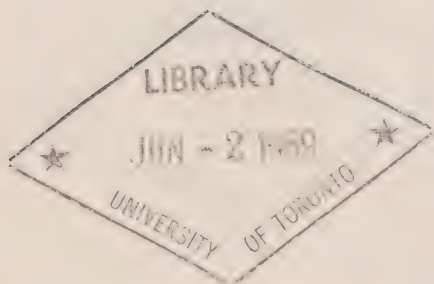
SPECIAL PROCEDURES AND FACILITIES WATER AERODROMES

(PENDING PUBLICATION IN THE CANADA AIR PILOT WATER AERODROME SUPPLEMENT)

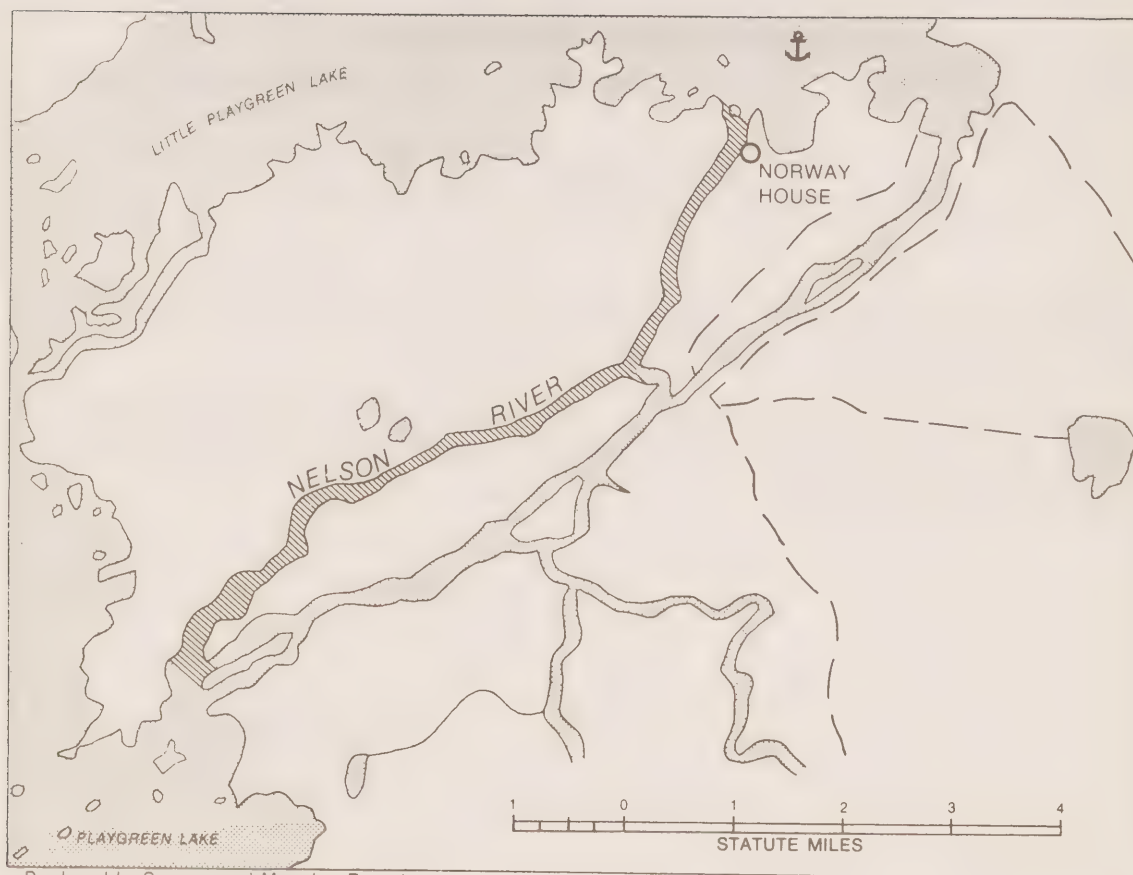
SEAPLANE OPERATING RESTRICTIONS NELSON RIVER - NORWAY HOUSE, MANITOBA

The hatched area of the Nelson River shown in the accompanying sketch is not to be used for take-offs or landings.

Because of heavy boat traffic, pilots taxiing in this area must use extreme caution and should not attain a greater speed than is necessary to maintain steerage way.



R. W. Goodwin
R. W. Goodwin,
Director, Civil Aviation.



Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

NOTAM



Government
Publications
Hazards & Obstructions

31/68
10th December

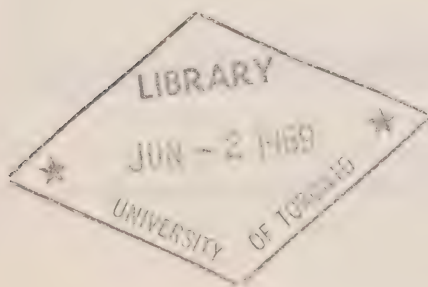
DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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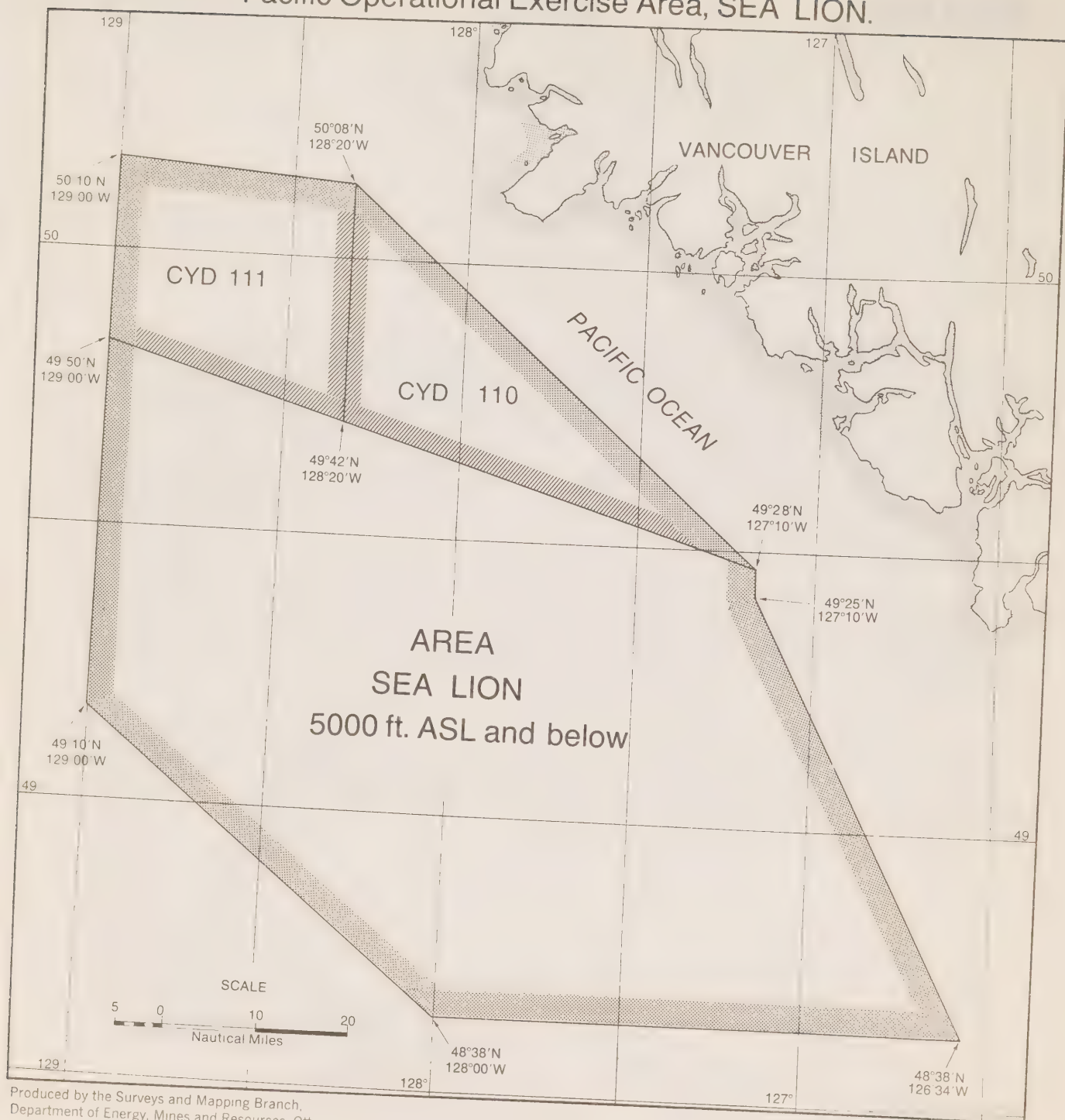
MILITARY FLYING ACTIVITY - NORTH PACIFIC (Supplementing 15/68)

1. The airspace over an area of the North Pacific, off the West Coast of Vancouver Island, is being used extensively for day and night military air operations. This airspace designated AREA SEA LION, extends upward from the surface to 5000 feet ASL over an area bounded by a line commencing at 48°38'N, 126°34'W to 48°38'N, 128°00'W to 49°10'N, 129°00'W to 50°10'N, 129°00'W to 50°08'N, 128°20'W to 49°28'N, 127°10'W to 49°25'N, 127°10'W to 48°38'N, 126°34'W. (See accompanying chart)
2. All-weather operational and training flights are conducted daily in anti-submarine warfare (ASW) aircraft within AREA SEA LION. The aircraft are flown on various headings and at various altitudes up to and including 5000 feet ASL. Rapid climbs and descents are executed without prior warning. Because of operational considerations, these aircraft may be operated without navigation and identification lights during the hours of darkness.
3. Pilots of aircraft not operating under the operational control of Maritime Commander Pacific, who propose to fly in or through this airspace are advised to file a flight plan before entering the airspace and should request the appropriate Area Control Centre to provide co-ordinating and flight advisory service and to relay the flight plan to the Canadian Commander Maritime Forces Pacific (CANMARFAC OPERATIONS) Esquimalt, B.C. Pilots are also advised to exercise extreme caution while flying within this airspace.
4. It should be noted that the Northern portion of the area depicted on the reverse side of this sheet is designated as two DANGER areas. Air firing exercises may be carried out within these areas on a continuous basis. While the airspace required for these exercises normally extends up to 5000 feet ASL only, there may be an occasional requirement to extend the airspace above 5000 feet ASL. In such an event, at least 24 hours notice will be provided by Class I NOTAM.



R. W. Goodwin
(R. W. Goodwin),
Director, Civil Aviation.

Pacific Operational Exercise Area, SEA LION.



NOTAM



Cover
Public
Summary

1/69
2nd January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st JANUARY, 1969

1966	1967	1968				1969
8/66 15/66	4/67 25/67 27/67	3/68 5/68 6/68	10/68 11/68 15/68 17/68	18/68 21/68 23/68	26/68 29/68 30/68 31/68	1/69

SPECIAL NOTICES

24/67 incorporated into The Canada Air Pilot
"Water Aerodrome Supplement"

14/68 incorporated into Designated Airspace Handbook

24/68 time expired - November 15th, 1968

25/68 time expired - October 10th, 1968

27/68 superseded by 1/69

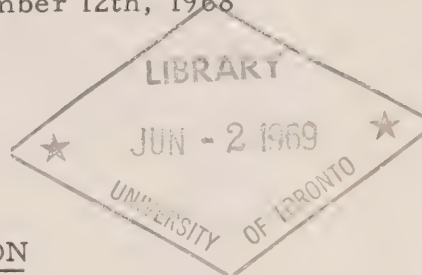
28/68 time expired - December 12th, 1968

GENERAL

1/69 Summary

HAZARDS TO AIR NAVIGATION

15/68 Hazards to Air Navigation
26/68 Hazards to Air Navigation (Supplements and Amends 15/68)
29/68 Hazards to Air Navigation (Supplements and Amends 15/68)
31/68 Hazards to Air Navigation - Military Flying Activity - North
Pacific - SEA LION



TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

CANADIAN AIRSPACE CHARACTERISTICS

25/67 Canadian Airspace Characteristics
5/68 Canadian Airspace Characteristics - Fraser Canyon VHF
Communications Service
10/68 Edmonton Upper Flight Information Region (Amends 25/67)

LAND AERODROMES

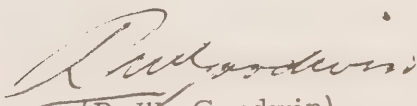
18/68 Cranbrook Airport
23/68 Special Procedures and Facilities

WATER AERODROMES

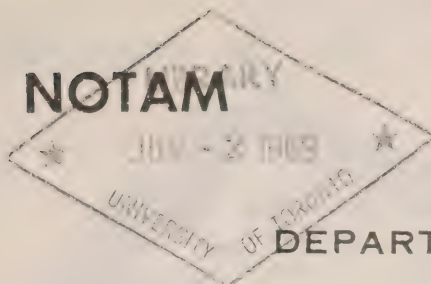
30/68 Nelson River - Norway House

AIR TRAFFIC CONTROL PROCEDURES

8/66 Area Control Above FL 230
15/66 Special VFR Procedures - Vancouver International Airport
4/67 Air Traffic Control Procedures
27/67 Extended Terminal Control Service
3/68 Special Procedures in the Gander Oceanic Control Area
6/68 Air Traffic Control Holding Procedures
11/68 Edmonton Upper Flight Information Region (Amends 4/67)
17/68 New ICAO Flight Plan Form
21/68 Extended Terminal Control Service - Toronto, Ontario


(R. W. Goodwin),
Director, Civil Aviation.

NOTAM



Governor
Phil

Restricted Airspace

2/69
6th January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Top Rung 69-2-C will take place over Canada between 0300 hours and 0940 hours Greenwich Mean Time on February 6th, 1969.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

AREA I

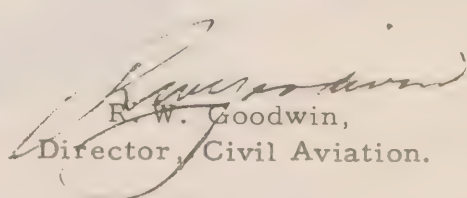
- between flight level 230 and flight level 450 between 0300 hours and 0940 hours Greenwich Mean Time on February 6th, 1969.

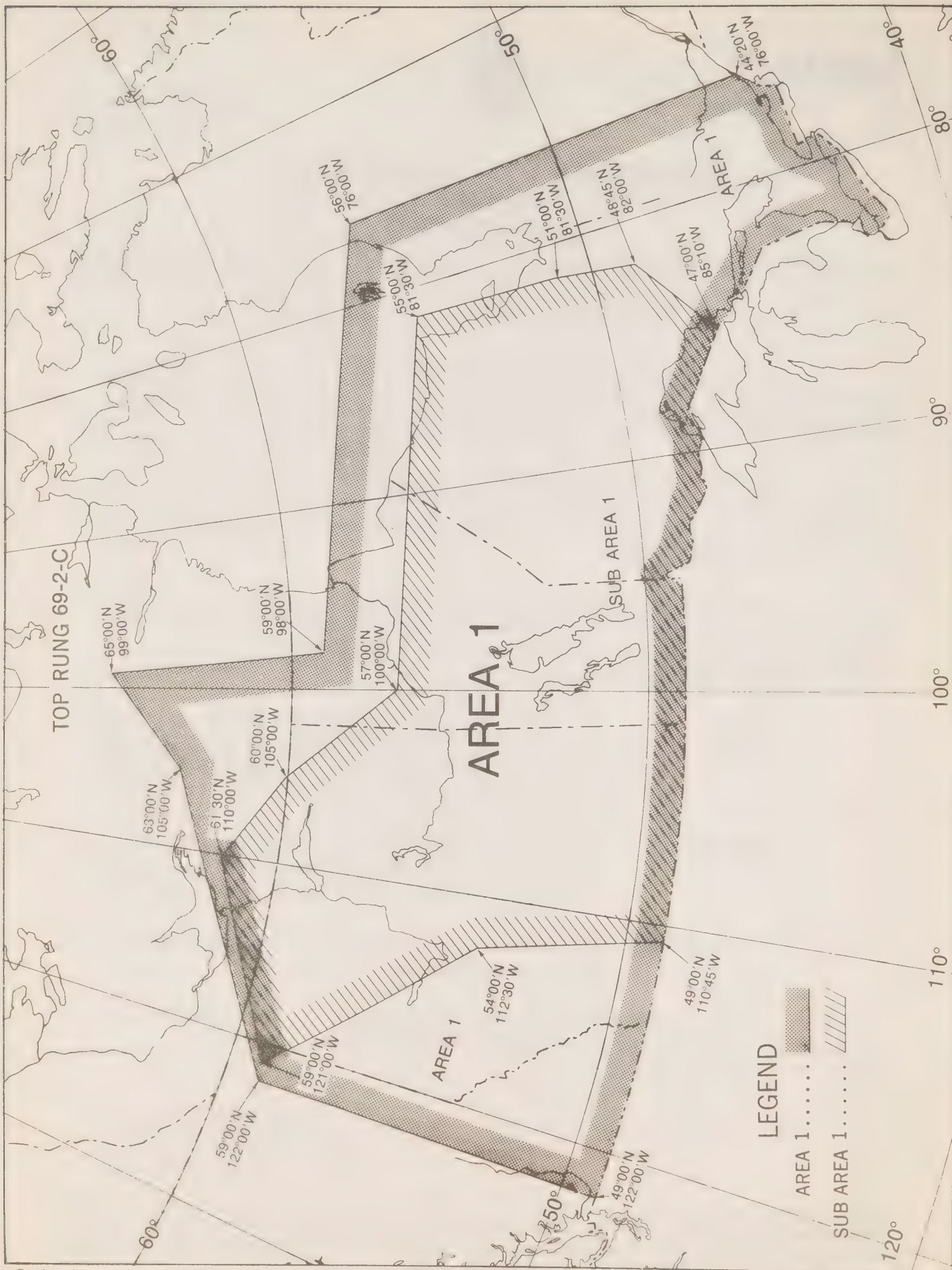
SUB AREA I

- below flight level 230 between 0530 hours and 0940 hours Greenwich Mean Time on February 6th, 1969.

NOTE: Sub Area I is contained wholly within Area I and is outlined with hatch lines.

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.


E. W. Goodwin,
Director, Civil Aviation.



NOTAM



Government
Air Traffic Control

3/69
10th January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 1

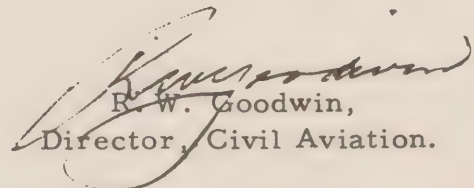
OBSTACLE CLEARANCE DURING RADAR VECTORS (Supplementing NOTAM 4/67)

The pilot of an IFR flight is responsible for ensuring that his flight is operated with adequate clearance from obstacles and terrain, as specified in the Air Regulations, Section 551. However, when an IFR flight is being radar vectored, air traffic control will ensure that the appropriate obstacle clearance is provided.

Minimum radar transition altitudes, which may be lower than minimum altitudes shown on navigation and approach charts, have been established at a number of locations to facilitate transitions to instrument approach aids. When an IFR flight is cleared to descend to the lower altitude, ATC will provide terrain and obstacle clearance until the aircraft is in a position from which an approved instrument approach or a visual approach can be commenced.

If a communication failure occurs while a flight is being radar vectored at an altitude below the minimum IFR altitudes shown on the instrument approach chart, the flight should climb immediately to the appropriate published minimum altitude, unless able to continue in VFR weather conditions.




R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



AIR TRAFFIC CONTROL

4/69

15th January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

SPECIAL VFR PROCEDURES - VANCOUVER INTERNATIONAL AIRPORT (Superseding NOTAM 15/66)

In order to maintain a safe and orderly flow of IFR and VFR traffic within the Vancouver Control Zone during Special VFR weather conditions, the following procedures apply.

Holding areas have been established for the use of VFR aircraft awaiting clearance to enter the Vancouver Control **Zone** during Special VFR weather conditions as follows: (See attached Chart).

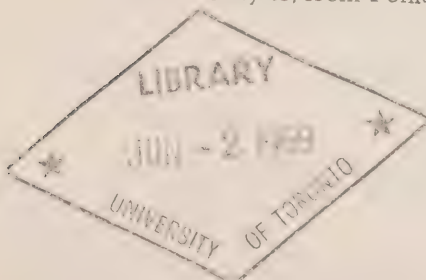
- i) Point Grey Jetty - A circular left-hand pattern centred on the end of the North Arm Jetty.
- ii) Spanish Banks - A circular left-hand pattern centred on the Point Grey Bell Buoy.
- iii) Steveston - A circular left-hand pattern centred on a point on the south bank of the South Arm of the Fraser River directly opposite the village of Steveston.
- iv) Lightship - A circular left-hand pattern centred on the Lightship.

Corridors between the airport and the approved holding areas have been established for use by Special VFR aircraft as follows: (See attached Chart)

- i) Point Grey Shoreline - via the west shore of Sea Island and the south side of the Fraser River Jetty to/from Point Grey.
- ii) Steveston Shoreline - via the west shore of Lulu Island to/from Steveston and via the Steveston Jetty to Lightship.

NOTE: The centerline of this corridor is marked with 13 International orange Shore Markers 32 feet above sea level.
As indicated on the attached chart, the centerline of this corridor lies along the West side of the CBU radio transmitting site with towers and guy wires rising to 200 feet ASL.
Pilots are advised to use the Shore Markers as a guide to remain clear of the transmitting towers yet within the prescribed corridor.

- iii) Point Grey North Arm - via the north arm of the Fraser River and the north side of the Fraser River Jetty to/from Point Grey.



General Procedures

It is necessary for pilots using the Special VFR corridors to adhere to the following:

- i) Refrain from entering flight conditions beyond pilot or aircraft capability.
- ii) Remain clear of cloud and within sight of the ground or water at all times.
- iii) Maintain an altitude of not more than 500 feet.
- iv) Remain within $\frac{1}{2}$ mile of the corridor centreline.
- v) Remain clear of IFR approach paths when within 10 miles of the airport.
- vi) If unable to comply with any of the foregoing requirements, contact the tower for instructions or assistance.
- vii) In the event of communications failure, DO NOT ENTER THE CONTROL ZONE OR RETURN TO THE AIRPORT - PROCEED TO AN ALTERNATE.

Departure Procedures

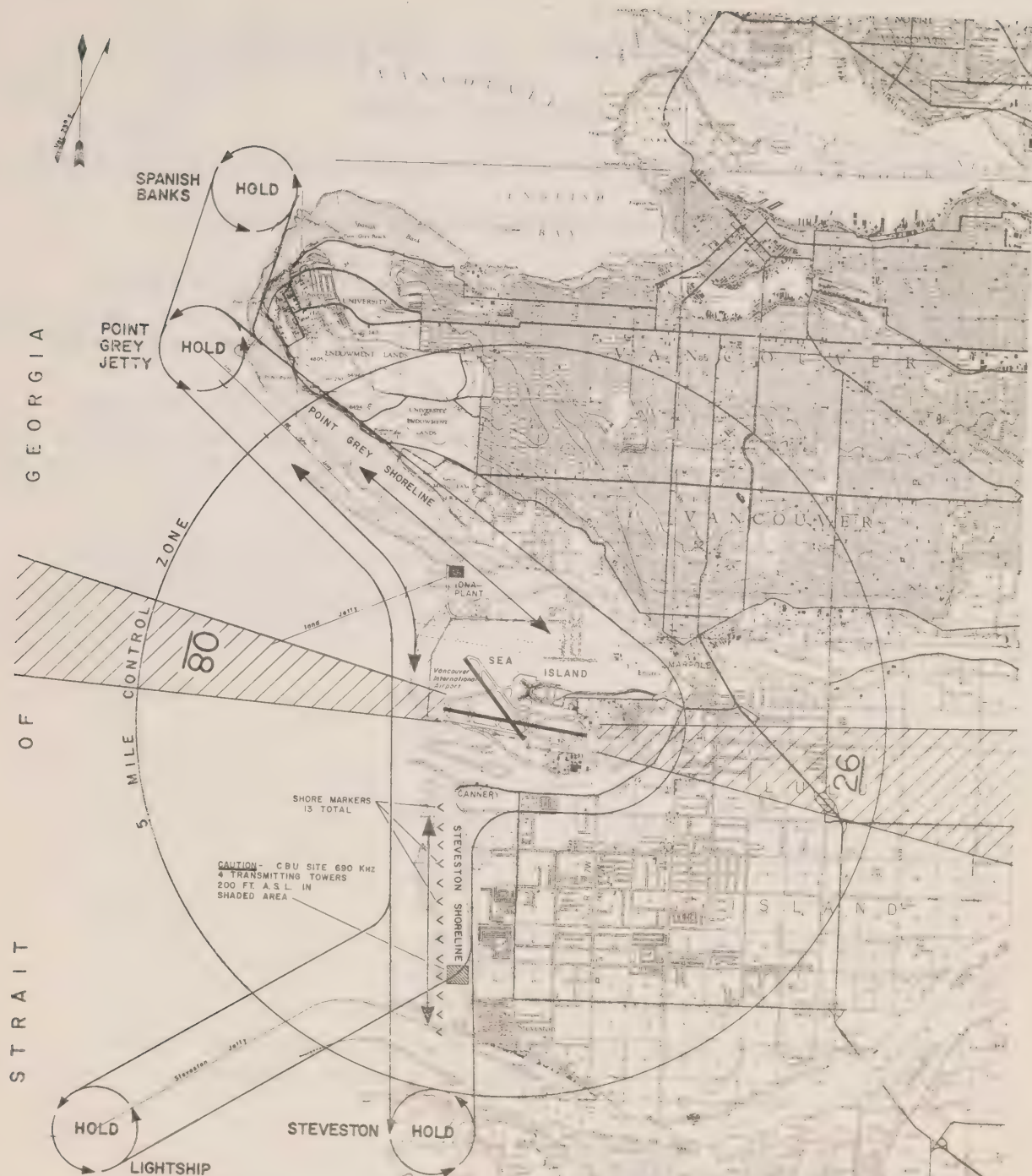
When requesting taxi clearance, a pilot should inform the airport controller of the flight's destination in order that, when possible, use of the corridor most appropriate to direction of intended flight may be authorized. On occasion, because of weather or traffic, it may be necessary for the airport controller to clear a flight to depart via a corridor leading away from destination. In this case the flight is to proceed via the approved corridor to a point beyond the control zone boundary and then, remaining well clear of the zone, continue to destination. Such a flight is not to re-enter the control zone without further ATC approval.

Arrival Procedures

Arriving VFR flights should contact Vancouver Tower well before reaching the control zone. When necessary, the airport controller will suggest that the flight hold in a specific holding area until traffic conditions permit issue of an approach clearance. The controller will provide an approximate time of entry into the control zone and information on any known traffic at the holding point. In each case the pilot has to decide whether he will hold or proceed elsewhere, and inform the Tower accordingly. The controller will be able to issue clearance to the airport via an approved corridor only after the pilot reports in a specific holding area.

While the procedures outlined above will be normally used for Special VFR flight in the Vancouver Control Zone, S/VFR flights outside of the corridors will be approved from time to time if traffic permits.


R. W. Goodwin,
Director, Civil Aviation.



**VANCOUVER INTERNATIONAL AIRPORT
SPECIAL VFR CORRIDORS - TOWER CLEARANCE REQUIRED**

1. Remain clear of cloud and within sight of surface.
2. Remain within 1/2 mile of corridor centre line.
3. Maintain not more than 500 feet altitude.
4. Remain clear of IFR approach paths within 10 miles of airport.
5. Do not enter flight conditions beyond pilot or aircraft capability.
6. If unable the foregoing contact tower for instruction or assistance.
7. Radio failure: DO NOT ENTER CONTROL ZONE OR RETURN TO AIRPORT. PROCEED TO AN ALTERNATE.

NOTE: Re Lightship - Steveston - VR Airport Corridor - the centreline of this corridor is marked with 13 international orange Shore Markers 32ft A.S.L. as shown above.

Shore Marker
Map Symbol

NOTAM

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JUN - 2 1969

UNIVERSITY OF TORONTO



CANADA

Government
Publication
Restricted Airspace

5/69
10th April

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

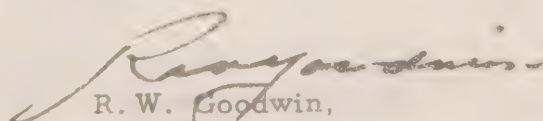
A large scale military air exercise to be known as Top Rung 69-3-W will take place over Western Canada between 0330 hours and 1220 hours Greenwich Mean Time on April 10, 1969.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

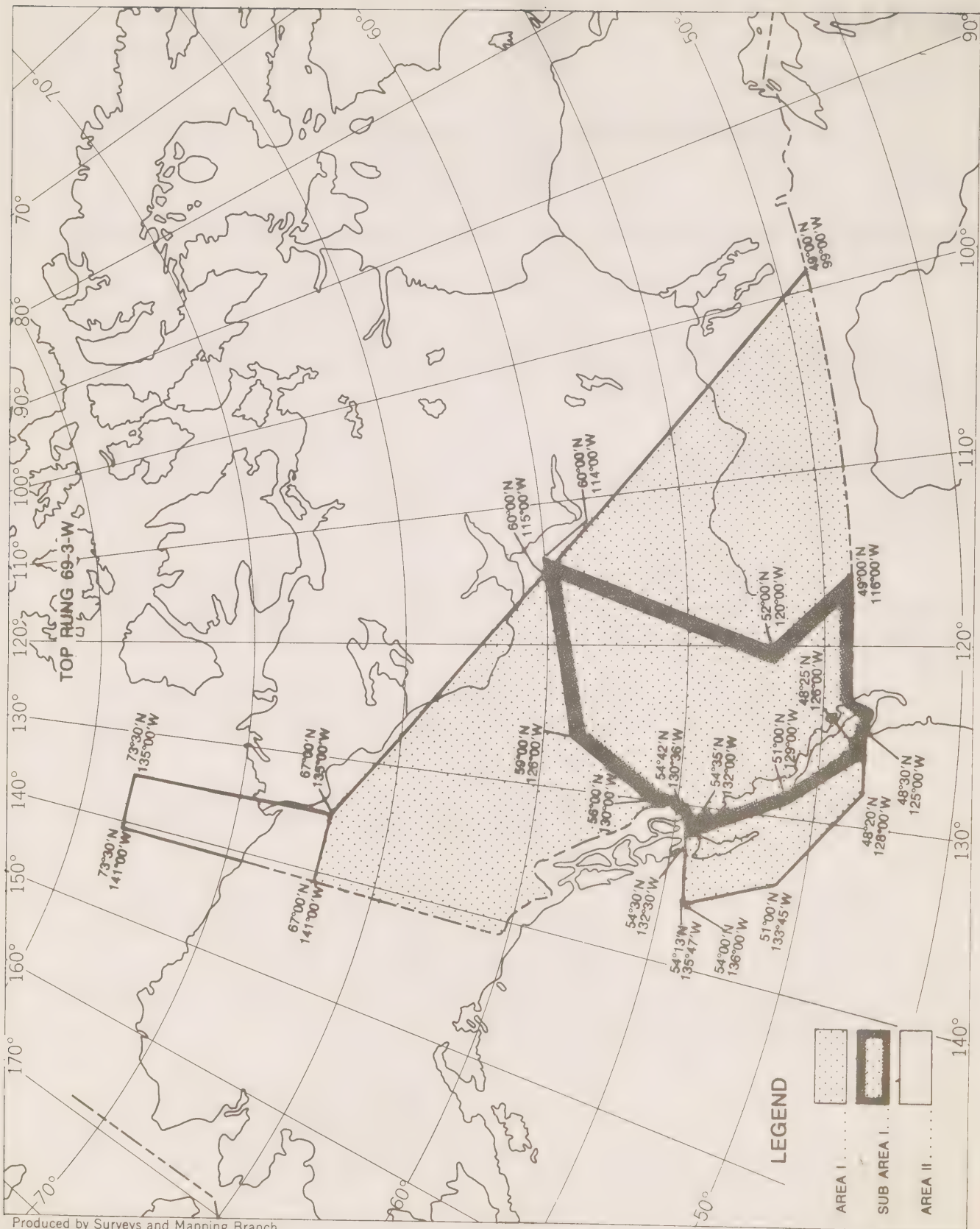
Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- AREA I
 - between flight level 230 and flight level 430 between 0430 hours and 1220 hours Greenwich Mean Time on April 10, 1969.
- SUB AREA I
 - below flight level 230 between 0625 hours and 1150 hours Greenwich Mean Time on April 10, 1969.
- AREA II
 - between flight level 270 and flight level 410 between 0330 hours and 0730 hours Greenwich Mean time on April 10, 1969.

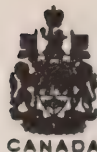
A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.


R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



Government
Publications
Aerodromes - Water

6/69
24th March

DEPARTMENT OF TRANSPORT

**AIR SERVICES
CIVIL AVIATION BRANCH**

Page 1 of 1

**SPECIAL PROCEDURES AND FACILITIES
WATER AERODROMES**

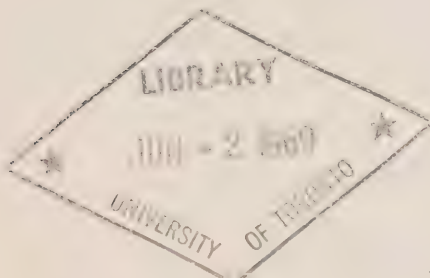
(PENDING PUBLICATION IN THE CANADA AIR PILOT WATER AERODROME SUPPLEMENT)

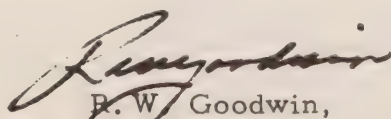
**SEAPLANE OPERATING RESTRICTIONS
RABBIT LAKE - KENORA, ONTARIO**

Rabbit Lake, located at 49°47'N Lat. , 94°28'W Long. , near Kenora, Ontario, is not to be used for seaplane operations except in an emergency.

This small lake is used extensively by swimmers and small boat operators and in order to reduce the risk of serious accidents its use as a seaplane landing area is restricted as above.

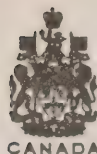
In lieu, pilots of seaplanes should use the public landing and docking facilities available on the neighbouring Lake of the Woods, Kenora shoreline.




R. W. Goodwin,
Director, Civil Aviation.

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NOTAM



Government
Publications
Hazards and Obstructions

7/69
31st March

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

HAZARDS TO AIR NAVIGATION

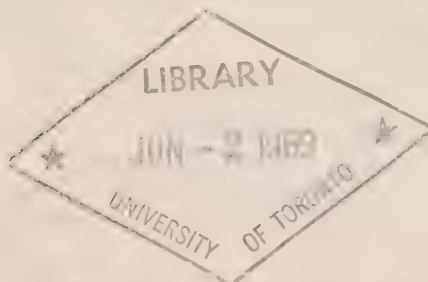
(Supplementing NOTAM 15/68)

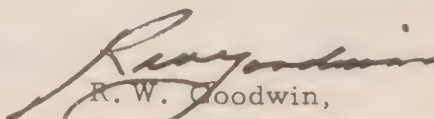
MIGRATION OF BIRDS - WILD GEESE

Flocks of migrating geese may be encountered along the flyways depicted on the accompanying chart from April 15th, to June 5th, at altitudes up to 5000 feet AGL on the St. Lawrence River route and up to 9000 feet AGL on the route over Manitoba. In the staging (resting and feeding) areas they are generally encountered at or below 2000 feet. White Greater Snow Geese averaging 8 to 12 pounds follow the routes over Eastern USA and Quebec. White Lesser Snow Geese and Blue Geese averaging 5 to 7 pounds follow the route over Manitoba and North Western Ontario.

The birds are capable of flying above cloud cover and between layers normally at speeds of 30 to 35 Kts. Loose flocks of 100 to 200 birds may be expected in flights strung out over a mile. Approximately 60,000 birds stage on the mud flats in the vicinity of the Island of Orleans and approximately 500,000 birds migrate along the western Canada route.

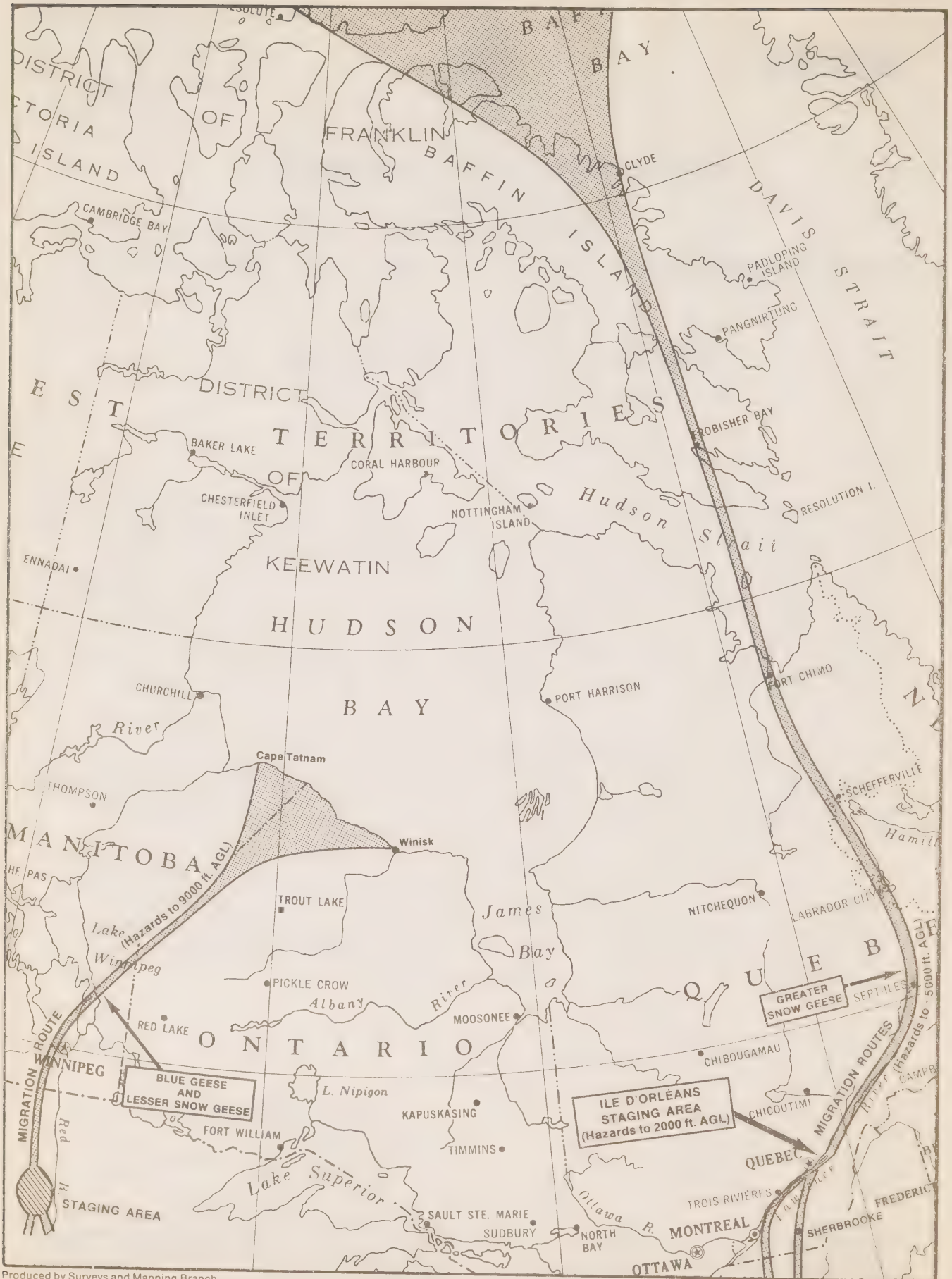
Flocks normally leave the staging areas between dusk and midnight; however, at times flights are continuous throughout the 24 hour period. Major movements involving 50,000 birds on a single night may occur following passage of warm fronts when southwesterly winds favour their flight.




R. W. Goodwin,
Director, Civil Aviation.

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MIGRATION ROUTES - WILD GEESSE





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WH-2

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st APRIL, 1969

1966	1967	1968				1969	
8/66	4/67	3/68	11/68	21/68	29/68	3/69	6/69
	25/67	5/68	15/68	23/68	30/68	4/69	7/69
	27/67	6/68	17/68	26/68	31/68	5/69	8/69
		10/68					

SPECIAL NOTICES

15/66 superseded by 4/69
18/68 incorporated in Canada Air Pilot
22/68 incorporated in Air Navigation Radio Aids
1/69 superseded by 8/69
2/69 time expired - February 6th, 1969.

GENERAL

8/69 Summary

HAZARDS TO AIR NAVIGATION

15/68 Hazards to Air Navigation
26/68 Hazards to Air Navigation (Supplements and Amends 15/68)
29/68 Hazards to Air Navigation (Supplements and Amends 15/68)
31/68 Hazards to Air Navigation - Military Flying Activity - North Pacific - SEA LION
7/69 Hazards to Air Navigation - Migration of Birds - Wild Geese

CANADIAN AIRSPACE CHARACTERISTICS

25/67 Canadian Airspace Characteristics
5/68 Canadian Airspace Characteristics - Fraser Canyon VHF Communications Service
10/68 Edmonton Upper Flight Information Region (Amends 25/67)

LAND AERODROMES

23/68 Special Procedures and Facilities

WATER AERODROMES

30/68 Nelson River - Norway House
6/69 Rabbit Lake - Kenora, Ont.

AIR TRAFFIC CONTROL PROCEDURES

8/66 Area Control Above FL 230
4/67 Air Traffic Control Procedures
27/67 Extended Terminal Control Service
3/68 Special Procedures in the Gander Oceanic Control Area
6/68 Air Traffic Control Holding Procedures
11/68 Edmonton Upper Flight Information Region (Amends 4/67)
17/68 New ICAO Flight Plan Form
21/68 Extended Terminal Control Service - Toronto, Ontario
3/69 Obstacle Clearance During Radar Vectors
4/69 Special VFR Procedures - Vancouver International Airport


RESTRICTED AIRSPACE

5/69 Temporary Restricted Airspace - Top Rung 69-3-W effective between 0330 hours and 1220 hours GMT on April 10, 1969

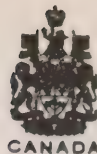
NOTE:

The latest amendment to the Aeronautics Act/Air Regulations Book is No. 10 dated 2/3/67.

The latest amendment to the Air Navigation Orders Book, is No. 21 dated 4/7/68.


B. W. Goodwin,
Director, Civil Aviation.

NOTAM



Government
Aerodromes - Land

9/69
7th April

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 1

SPECIAL PROCEDURES AND FACILITIES LAND AERODROMES

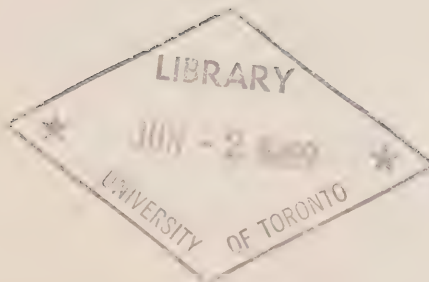
(Supplementing NOTAM 23/68)

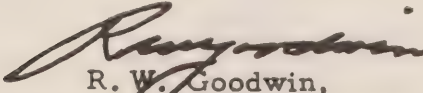
TORONTO INTERNATIONAL AIRPORT - USE BY CHARTER FLIGHTS

Serious overloading of International Inspection Facilities at Toronto International Airport is occurring between 1400 hours and 2100 hours local time because of the large number of flights requiring these services during this period of the day, particularly during the summer months and on holiday week-ends throughout the year.

In order to alleviate this problem, the procedures outlined below are to be followed by charter operators:

- (a) All charter flights, including those of regular scheduled carriers, are to be planned for arrival during the period 0830 hours to 1330 hours local time.
- (b) Notice of each charter flight planned to Toronto International Airport is to be provided to the Airport Manager as far in advance of the flight as is possible. In order to be assured of a minimum delay in the provision of International Inspection Services, two months prior notice is strongly recommended.




R. W. Goodwin,
Director, Civil Aviation.

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10/69
7th April

NOTAM



DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

SPECIAL PROCEDURES AND FACILITIES
LAND AERODROMES

(Supplementing NOTAM 23/68)

CFB CAMP BORDEN TRAINING AREA

All operators and pilots are notified that extensive Pilot training and Precision Radar Controller training takes place at, and in the vicinity of, CFB Camp Borden.

This training involves low flying, aerobatic practice, practical Radar vectoring, and precision Radar approaches as well as extensive circuit practice flying within the respective areas depicted on the accompanying chart.

(a) Aerobatic Area

This area is used during VFR weather conditions up to and including 6000 feet ASL.

(b) Radar Controller Training Area

This area is used up to an altitude of 4000 feet ASL during VFR weather conditions and occasionally when weather conditions are below VFR minima.

(c) Low Flying Area

This area is used for low flying practice during VFR weather conditions.

(d) Local Flying Area

This area is used for local air work during VFR weather conditions.

The Toronto Area Control Centre will approve airspace reservations as required and will provide standard separation between the airspace reservations and IFR traffic.

In view of the extensive flying activity in these areas, VFR pilots are advised to exercise extreme caution when flying within these airspaces.

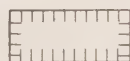

R. W. Goodwin,
Director, Civil Aviation.

FLYING TRAINING AREAS - CFB CAMP BORDEN



Produced by Surveys and Mapping Branch,
Department of Energy, Mines and Resources.

LEGEND



Aerobic Area (6000 feet and below)



Radar Controller Training Area
(outer circle 5NM buffer for radar vectoring)

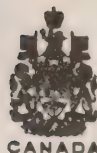


Low Flying Area



Local Flying Area

NOTAM



Restricted Airspace

11/69
9th April

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Snow Time 69-3-W will take place over western Canada between 0520 hours and 1000 hours Greenwich Mean Time June 12, 1969.

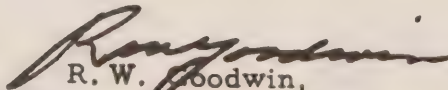
Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- below flight level 390 between 0520 hours and 1000 hours Greenwich Mean Time on June 12, 1969.

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.




R. W. Woodwin,
Director, Civil Aviation.



NOTAM

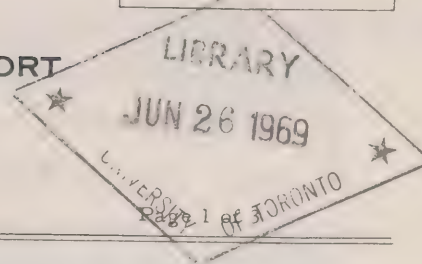


AIR TRAFFIC CONTROL

12/69
2nd May

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH



SPECIAL VFR PROCEDURES - VANCOUVER INTERNATIONAL AIRPORT (Superseding NOTAM 4/69)

In order to maintain a safe and orderly flow of IFR and VFR traffic within the Vancouver Control Zone during Special VFR weather conditions, the following procedures apply.

Holding areas have been established for the use of VFR aircraft awaiting clearance to enter the Vancouver Control Zone during Special VFR weather conditions as follows: (See attached Chart).

- i) Point Grey Jetty - A circular left-hand pattern centred on the end of the North Arm Jetty.
- ii) Spanish Banks - A circular left-hand pattern centred on the Point Grey Bell Buoy.
- iii) Steveston - A circular left-hand pattern centred on a point on the south bank of the South Arm of the Fraser River directly opposite the village of Steveston.
- iv) Lightship - A circular left-hand pattern centred on the Lightship.

Corridors between the airport and the approved holding areas have been established for use by Special VFR aircraft as follows: (See attached Chart)

- i) Point Grey Shoreline - via the west shore of Sea Island and the south side of the Fraser River Jetty to/from Point Grey.
- ii) Steveston Shoreline - via the west shore of Lulu Island to/from Steveston and via the Steveston Jetty to Lightship.

NOTE: The east side of this corridor is marked with 13 International orange Shore Markers 32 feet above sea level.
As indicated on the attached chart, this corridor lies along the west side of the CBU radio transmitting site with towers and guy wires rising to 200 feet ASL.
Pilots are advised to use the Shore Markers as a guide to remain clear of the transmitting towers yet within the prescribed corridor.

- iii) Point Grey North Arm - via the north arm of the Fraser River and the north side of the Fraser River Jetty to/from Point Grey.

General Procedures

It is necessary for pilots using the Special VFR corridors to adhere to the following:

- i) Refrain from entering flight conditions beyond pilot or aircraft capability.
- ii) Remain clear of cloud and within sight of the ground or water at all times.
- iii) Maintain an altitude of not more than 500 feet.
- iv) Remain within $\frac{1}{2}$ mile of the corridor centreline.
- v) Remain clear of IFR approach paths when within 10 miles of the airport.
- vi) If unable to comply with any of the foregoing requirements, contact the tower for instructions or assistance.
- vii) In the event of communications failure, DO NOT ENTER THE CONTROL ZONE OR RETURN TO THE AIRPORT - PROCEED TO AN ALTERNATE.

Departure Procedures

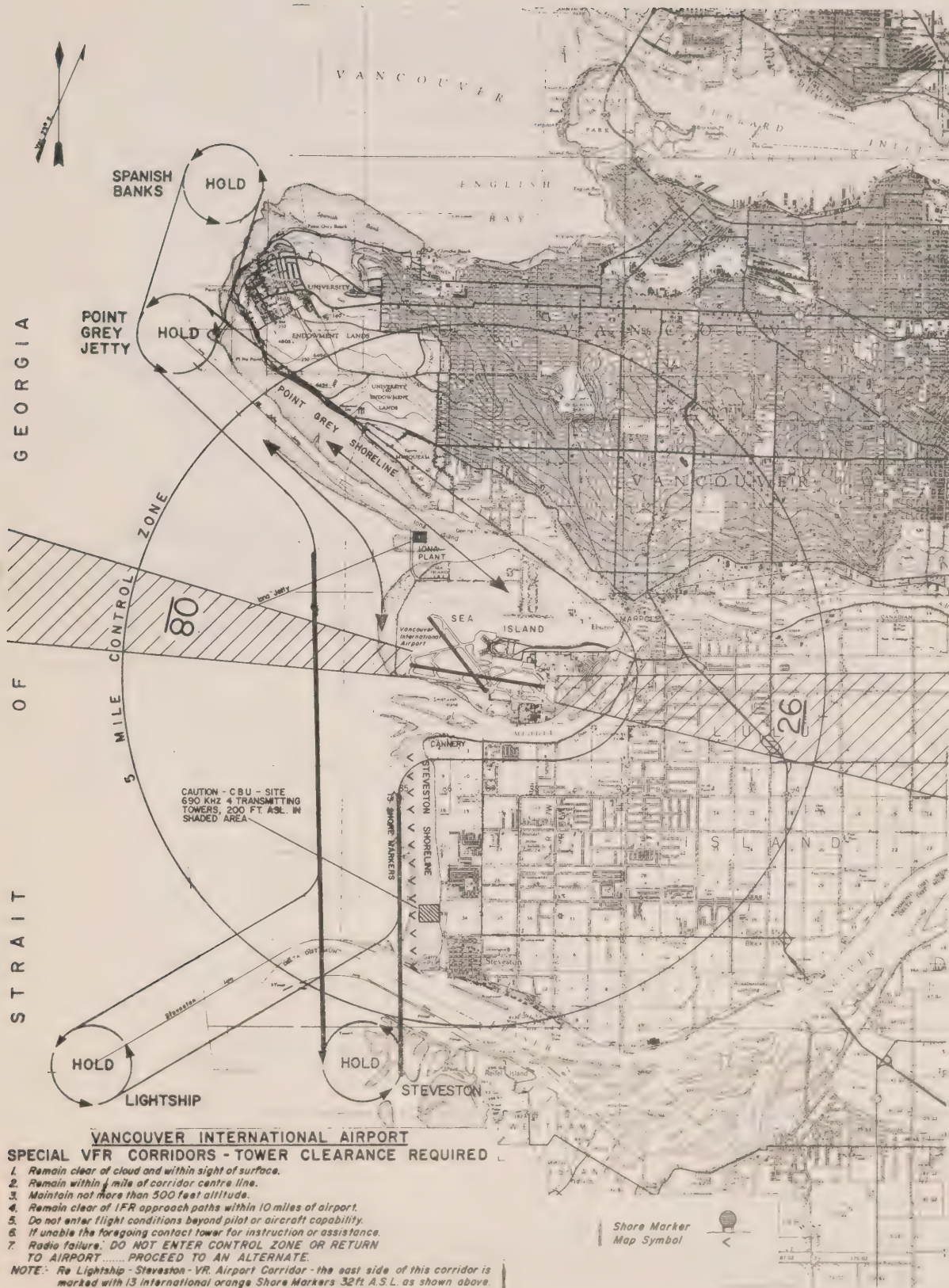
When requesting taxi clearance, a pilot should inform the airport controller of the flight's destination in order that, when possible, use of the corridor most appropriate to direction of intended flight may be authorized. On occasion, because of weather or traffic, it may be necessary for the airport controller to clear a flight to depart via a corridor leading away from destination. In this case the flight is to proceed via the approved corridor to a point beyond the control zone boundary and then, remaining well clear of the zone, continue to destination. Such a flight is not to re-enter the control zone without further ATC approval.

Arrival Procedures

Arriving VFR flights should contact Vancouver Tower well before reaching the control zone. When necessary, the airport controller will suggest that the flight hold in a specific holding area until traffic conditions permit issue of an approach clearance. The controller will provide an approximate time of entry into the control zone and information on any known traffic at the holding point. In each case the pilot has to decide whether he will hold or proceed elsewhere, and inform the Tower accordingly. The controller will be able to issue clearance to the airport via an approved corridor only after the pilot reports in a specific holding area.

While the procedures outlined above will be normally used for Special VFR flight in the Vancouver Control Zone, S/VFR flights outside of the corridors will be approved from time to time if traffic permits.


R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Hazards and Obstructions

13/69
19th May

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

HAZARDS TO AIR NAVIGATION

(Supplementing and Amending NOTAM 15/68)

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MILITARY FLYING ACTIVITY - NORTH ATLANTIC

United States Air Force - Low Level
Training Flights
(Revision)

SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
BY PROVINCES

PRINCE EDWARD ISLAND

Parachute Jumping Areas
(Revision to NOTAM 26/68)

QUEBEC

Temporary Flight - Test Area
(Revision)

BRITISH COLUMBIA

Parachute Jumping Areas
(Revision to NOTAM 26/68)

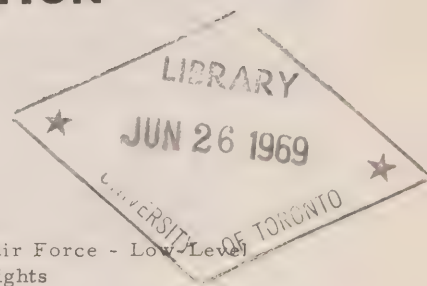
Glider Operations
(Addition)

SECTION I

GENERAL HAZARDS

UNITED STATES AIR FORCE - LOW-LEVEL TRAINING FLIGHTS
(Revision)

The code name for this route is changed from Ice Age Route to BAYSHORE (EAST) OB-9.



SECTION II

OBSTRUCTIONS POTENTIALLY HAZARDOUS TO AIRCRAFT OPERATIONS
LISTED BY PROVINCES

PRINCE EDWARD ISLAND

PARACHUTE JUMPING AREA
(Revision to NOTAM 26/68)

Pilots are cautioned to either avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at an altitude where parachutists might be encountered.

MOUNT PLEASANT AIRPORT,

From time to time in the vicinity of Mount Pleasant Airport, P.E.I. within a circle of two mile radius centered at 46°36'N, 64°01'W, descents are made from altitudes not exceeding 7500 feet ASL during daylight hours and are co-ordinated through Summerside Control Tower.

QUEBEC

TEMPORARY - FLIGHT-TEST AREA
(Revision)

Paragraphs (c) and (d), as shown on Page 13 of NOTAM 15/68 are amended to read as follows:

- (c) They may occupy airspace from the surface up to and including FL 230.
- (d) Supersonic flights will be made at altitudes 17000 feet ASL and above and will be limited to the northern extremities of the area only.

BRITISH COLUMBIA

PARACHUTE JUMPING AREAS
(Revision to NOTAM 26/68)

Pilots are cautioned to avoid the following area when parachute jumping is in progress or to exercise extreme caution when flying in this area at altitudes where parachutists might be encountered.

KAMLOOPS,

On Saturdays and Sundays only, during daylight hours, descents may be made from 8,500 feet ASL. If jumps are to be made above this altitude, clearance must be obtained from Kamloops Tower. The Jump area is located approximately 10 statute miles east of Kamloops airport at 50°44'12"N, 120°13'W.

In addition, descents may be made on Wednesday evenings from 1700 hours local time until grounding time from April 15th, until October 31st, 1969.

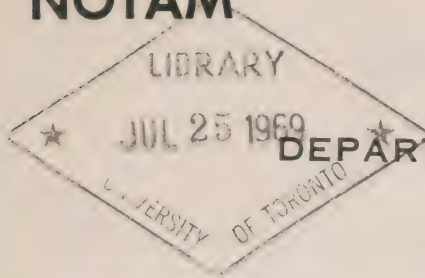
GLIDER OPERATIONS
(Addition)

KAMLOOPS,

Glider operations are carried out on Saturdays, Sundays and Mondays on the grass area south of, and parallel to, runway 08-26. Glider circuits are to the south of runway 08-26.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM

14/69
9th June

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Snowtime 70-1-E will take place over eastern Canada between 0240 hours and 1000 hours Greenwich Mean Time on August 13, 1969.

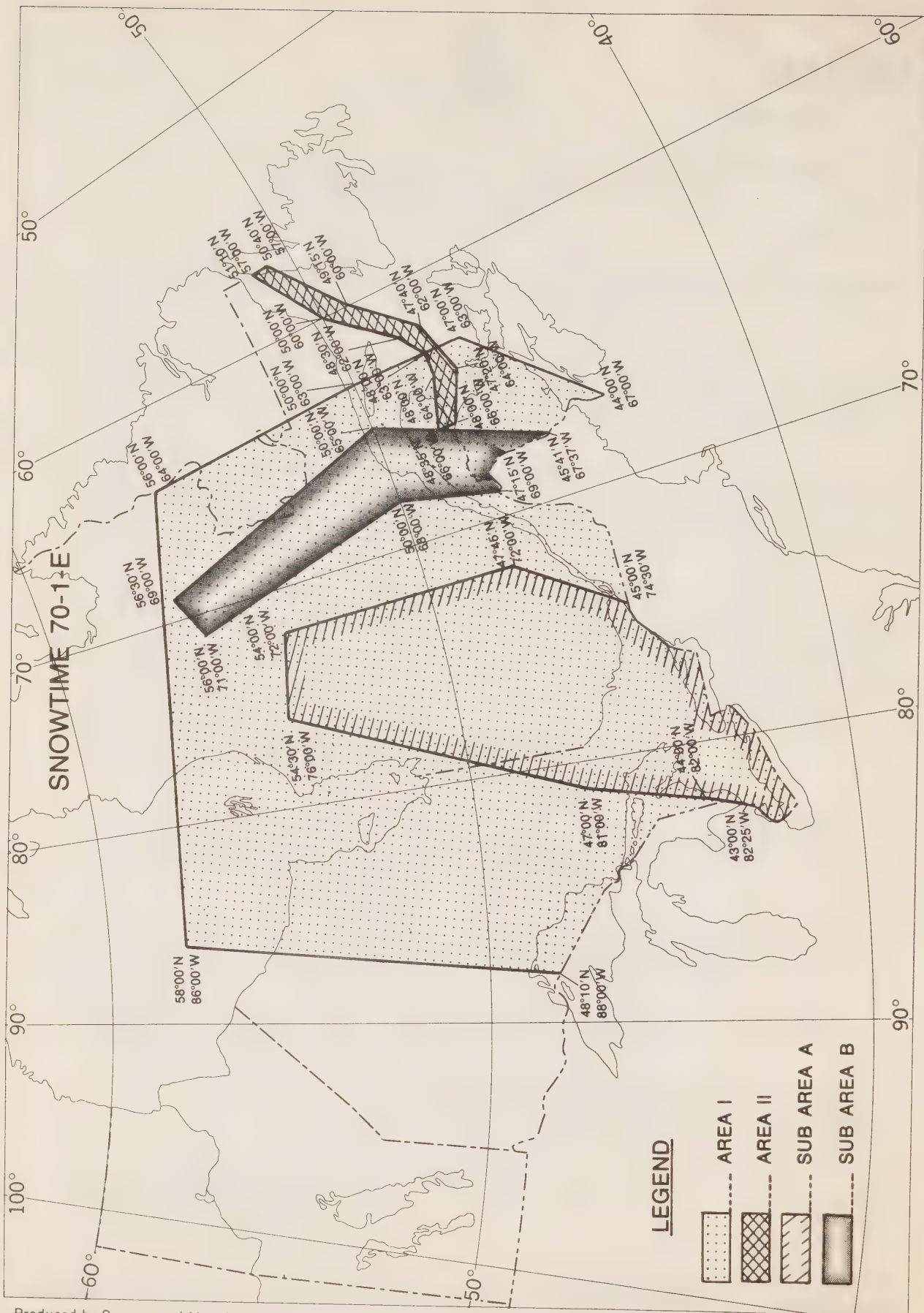
Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- AREA I - between flight level 210 and flight level 450 between 0240 hours and 1000 hours Greenwich Mean Time on August 13, 1969.
- SUB AREA A - between 7000 feet above mean sea level and flight level 210 between 0515 hours and 0845 hours Greenwich Mean Time on August 13, 1969.
- SUB AREA B - below flight level 210 between 0445 hours and 0715 hours Greenwich Mean Time on August 13, 1969.
- AREA II - below flight level 410 between 0550 hours and 0730 hours Greenwich Mean Time on August 13, 1969.

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.

R. W. Goodwin,
Director, Civil Aviation.



NOTAM



15/69
16th June

DEPARTMENT OF TRANSPORT

AIR SERVICES CIVIL AVIATION BRANCH

Page 1 of 2

Flight Procedures Within Control Zones (Supplementing NOTAM 4/67)

An increase in aircraft operations and the extreme variations in aircraft performance characteristics have necessitated changes in flight procedures at many controlled airports and a more comprehensive delineation of all control zones.

An Air Navigation Order entitled "Positive Control Zone Order" has been made by the Minister of Transport and will be promulgated prior to June 26, 1969. In accord with the provisions of that order, the following procedures will be effective on that date.

Mandatory Flight Procedures

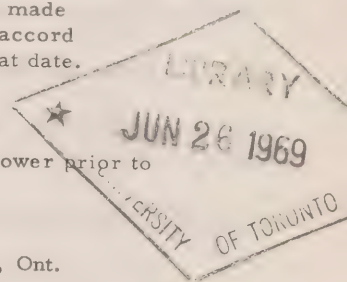
Pilots must establish and maintain radio communication with the control tower prior to operating within the control zone at the following locations:

- | | |
|-------------------------------|--------------------------------|
| * Argentia, Nfld. | * Namao, Alta. |
| * Bagotville, Que. | Ottawa International, Ont. |
| Buttonville, Ont. | * Portage, Man. |
| Calgary, Alta. | Regina, Sask. |
| * Camp Borden, Ont. | * Rivers, Man. |
| * Chatham, N. B. | St. Hubert, Que. |
| * Cold Lake, Alta. | Saskatoon, Sask. |
| * Comox, B. C. | * Shearwater, N. S. |
| * Downsview, Ont. | * Summerside, P. E. I. |
| Edmonton Industrial, Alta. | Toronto International |
| Edmonton International, Alta. | (Malton), Ont. |
| * Gimli, Man. | Toronto Island, Ont. |
| * Goose, Nfld. | * Trenton, Ont. |
| * Greenwood, N. S. | * Val-d'or, Que. |
| Halifax International, N. S. | Vancouver International, B. C. |
| London, Ont. | Victoria International, B. C. |
| Montreal International, Que. | Windsor, Ont. |
| * Moose Jaw, Sask. | Winnipeg International, Man. |

* SERVED BY A DEPARTMENT OF NATIONAL DEFENCE CONTROL TOWER.

If unable to establish radio communication with the control tower, pilots must remain clear of the control zone unless prior approval for flight within the zone has been obtained from the control tower.

These procedures do not apply when the control tower is not in operation, except as specified in NOTAM on "Special Procedures and Facilities - Land Aerodromes".



Recommended Flight Procedures for Control Zones Other Than Those Listed On Page 1.

It is strongly recommended that pilots establish and maintain radio communication with the appropriate control tower prior to operating within any other control zone served by a control tower.

If aircraft are not equipped with a serviceable radio, pilots should notify the control tower in advance of their intention to operate within the control zone.

When aircraft are not equipped with serviceable radios and pilots are unable to notify the control tower in advance, they should, unless intending to land, remain well clear of airport traffic circuits.

These procedures do not apply when a control tower is not in operation.

Procedures remain unchanged for aircraft operating within control zones not served by a control tower and within aerodrome traffic zones.


Control Zone Dimensions

Vertical limits of control zones served by a control tower will be referenced to Above Ground Level except the control zones contained within the control areas where Extended Terminal Control Service is being provided which will be referenced to Above Sea Level. Control zones served by a Department of Transport control tower will extend from the surface up to and including 4000 feet above the surface. Control zones served by a Department of National Defence control tower will normally extend from the surface up to and including 6000 feet above the surface.

The majority of control zones will retain their present lateral dimensions and circular shape. Control zones at the following locations will be irregular in shape:

Abbotsford, B. C.
Edmonton International, Alta.
Victoria International, B. C.

Revised lateral and vertical dimensions of control zones will be published in the Designated Airspace Handbook and depicted on appropriate Aeronautical Charts.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Summary

16/69
1st July

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

LIBRARY

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NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st JULY 1969

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SPECIAL NOTICES

17/68 sufficiently advertised
4/69 superseded by 12/69
5/69 time expired - April 10th, 1969
8/69 superseded by 16/69
11/69 time expired - June 12th, 1969

GENERAL

16/69 Summary

HAZARDS TO AIR NAVIGATION

15/68 Hazards to Air Navigation
26/68 Hazards to Air Navigation (Supplements and Amends 15/68)
29/68 Hazards to Air Navigation (Supplements and Amends 15/68)
31/68 Hazards to Air Navigation - Military Flying Activity - North Pacific - SEA LION
7/69 Hazards to Air Navigation - Migration of Birds - Wild Geese
13/69 Hazards to Air Navigation (Supplements and Amends 15/68)

CANADIAN AIRSPACE CHARACTERISTICS

25/67 Canadian Airspace Characteristics
5/68 Canadian Airspace Characteristics - Fraser Canyon VHF Communications Service
10/68 Edmonton Upper Flight Information Region (Amends 25/67)

LAND AERODROMES

23/68 Special Procedures and Facilities
9/69 Special Procedures and Facilities - Toronto International - Use by Charter Flights
10/69 Special Procedures and Facilities - CFB Camp Borden Training Area

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30/68 Nelson River - Norway House
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AIR TRAFFIC CONTROL PROCEDURES

8/66 Area Control Above FL 230
4/67 Air Traffic Control Procedures
27/67 Extended Terminal Control Service
3/68 Special Procedures in the Gander Oceanic Control Area
6/68 Air Traffic Control Holding Procedures
11/68 Edmonton Upper Flight Information Region (Amends 4/67)
21/68 Extended Terminal Control Service - Toronto, Ontario
3/69 Obstacle Clearance During Radar Vectors
12/69 Special VFR Procedures - Vancouver International Airport
15/69 Flight Procedure Within Control Zones

RESTRICTED AIRSPACE

14/69 Temporary Restricted Airspace - Snowtime 70-1-E effective between 0240 hours and
1000 hours GMT on August 13th, 1969

NOTE: The latest amendment to the Aeronautics Act/Air Regulations Book is No. 11 dated 24/3/69.
The latest amendment to the Air Navigation Orders Book is No. 23 dated 13/6/69.

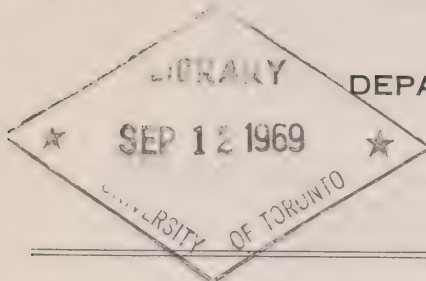

B. W. Goodwin,
Director, Civil Aviation.

NOTAM



Government
Airspace Characteristics
Publications

17/69
21st July



DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 4

CANADIAN AIRSPACE CHARACTERISTICS (Superseding NOTAM 25/67)

<u>CONTENTS</u>	<u>PAGE</u>
<u>Controlled Airspace</u>	
Minimum IFR Altitudes	2
Military Flying Areas	2
<u>Uncontrolled Airspace</u>	
Recommended Operating Procedures	3
Aerodrome Traffic Zones	4

NOTE:

Information concerning Airspace Characteristics omitted from this NOTAM which supersedes NOTAM 25/67 is published in the documents indicated below.

Controlled Airspace Above F/L 230	Designated Airspace Handbook and NOTAM 4/67
Definitions	Designated Airspace Handbook
Designated Mountainous Regions	Designated Airspace Handbook and Canada Air Pilot
Edmonton Upper Flight Information Region	Airspace Characteristics NOTAM 10/68
Fraser Canyon VHF Communication Service	Airspace Characteristics NOTAM 5/68

CANADIAN AIRSPACE CHARACTERISTICS

CONTROLLED AIRSPACE

MINIMUM IFR ALTITUDES

Minimum en route IFR altitudes have been established for all designated low altitude airways and air routes in Canada. The altitudes listed in the Designated Airspace Handbook published by the Department of Transport and available from the Department of Energy, Mines and Resources shall be the accepted minimum en route IFR altitudes. The MEA is the lowest altitude to be considered for flight planning purposes.

The flight plan altitude shall be the nearest even or odd thousand foot level appropriate to the direction of flight, at or above the minimum en route IFR altitude. Unless the minimum en route IFR altitude is one which is appropriate to the direction of flight, it is not to be used in the flight plan.

As different minimum en route IFR altitudes may be listed for adjoining segments of airways or air routes, aircraft are in all cases to cross the specified fix at which a change in minimum en route IFR altitude takes place at the higher altitude.

Where the minimum obstruction clearance altitude is lower than the minimum en route IFR altitude, the minimum obstruction clearance altitude will also be listed in the Designated Airspace Handbook. Where the minimum en route IFR altitude and the minimum obstruction clearance altitude are the same, only the minimum en route IFR altitude will be listed.

The minimum obstruction clearance altitude will provide, under conditions of standard temperature and pressure, 1000 feet clearance above all obstacles lying within the lateral limits of the airway or air route between specified fixes.

The minimum en route IFR altitude or the minimum obstruction clearance altitude whichever is the lower, is the lowest altitude above sea level for that portion of the route at which an IFR flight may be conducted under any circumstances. This altitude is provided in order that pilots will be readily aware of the lowest safe altitude which may be used in an emergency, such as malfunctioning engine or icing conditions.

When the minimum reception altitude for a specific VHF/UHF is higher than the listed minimum en route IFR altitude for that portion of the airway on which the intersection is located, the minimum reception altitude for the intersection will also be listed in the Designated Airspace Handbook.

MILITARY FLYING AREAS

Blocks of airspace above flight level 230, designated as Military Flying Areas (MFAs), are reserved for the use of military training and testing flights. When approved by ATC, civil aircraft may traverse these areas.

UNCONTROLLED AIRSPACE

Recommended Operating Procedures

When aircraft are manoeuvring in the vicinity of uncontrolled airports, or cruising in uncontrolled airspace, the lack of information on the movements of other aircraft operating in close proximity may occasion a potential hazard to all concerned.

To alleviate this situation, all pilots are advised that:

- (a) When operating in uncontrolled airspace, they should continuously monitor the frequency 122.2 MHz, whenever practicable.
- (b) Immediately before changing altitude in uncontrolled airspace, they should broadcast their intentions on 122.2 MHz whenever practicable. Such broadcasts should include the following:

- (a) Last known position.
 - (b) Estimated next position.
 - (c) Present altitude or flight level.
 - (d) Intention (climb/descent).
 - (e) Planned altitude or flight level.
- (c) When making an IFR descent to, or departure from, any airport at which a D. O. T. Aeradio Station is located, (except when operating within controlled airspace), they should request traffic information from that station, 122.2 MHz being used for such communications whenever practicable. If there is no known traffic in the vicinity, the aeradio operator will advise "no local traffic reported". Otherwise, the operator will provide relevant traffic details in his reply to the aircraft. (such airports are indicated in Canada Air Pilot).
- (d) When operating within 50 miles of aerodromes at which no control tower is established but at which an aeradio station is located, all pilots should establish contact with the appropriate Aeradio Station, preferably on 122.2 MHz, and provide details of their flight plan, last known position, track and altitude.

This Department has published instrument approach procedures to a number of airports at which air traffic control and flight advisory services are unavailable. All pilots planning an IFR descent to, departure from, or cruising flight in the vicinity of such airports are advised that they should "broadcast" their intentions on 122.2 MHz when 15 minutes flying time from the station, (except when operating in controlled airspace), and immediately prior to commencing descent, as applicable. (Such airports are indicated in Canada Air Pilot).

Where applicable the "Broadcast" should contain details of:

- (a) Estimated time of arrival or departure
- (b) Cruising altitude or flight level
- (c) Type of descent planned
- (d) Time of departure
- (e) Track of climb-out

When passing position reports to D. O. T. Aeradio Stations, or other ground stations, pilots operating outside of controlled airspace should, whenever practicable, transmit such reports on 122.2 MHz. If it is necessary to use another frequency to establish communications with any ground station, all position reports should also be broadcast on 122.2 MHz for the information of other traffic operating in the vicinity. Such "Broadcasts" should contain details of:

- (a) Present position
- (b) Track
- (c) Altitude
- (d) Altimeter setting in use
- (e) Next position and estimated time of arrival.

Cruising Altitudes

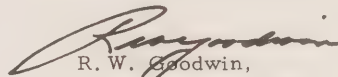
All pilots are reminded of the terms of Air Navigation Order, Series V, No. 2, which specifies the Cruising Altitudes and Flight Levels to be used when operations are being conducted in uncontrolled airspace.

AERODROME TRAFFIC ZONES

To minimize the possibility of conflict between VFR and IFR operations at uncontrolled aerodromes and airports for which instrument approach procedures have been approved, "Aerodrome Traffic Zones", with a 5 statute mile radius from the centre of the aerodrome, have been designated. (Aerodrome Traffic Zones are listed in the Designated Airspace Handbook and are depicted on aeronautical charts).

"Aerodrome Traffic Zones" are defined in Part I, Section 101 of the Air Regulations. The weather minima for VFR flight within these zones are as published in Air Navigation Order, Series V, No. 3, viz:

- (a) Ground visibility shall be 3 miles,
- (b) Distance of an aircraft from cloud shall be 500 feet vertically and 1 mile horizontally,
- (c) Distance of an aircraft from ground or water shall be 500 feet vertically.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



CANADA

AUG - 7 1969

UNIVERSITY OF TORONTO

Hazards and Obstructions

18/69

28th July

DEPARTMENT OF TRANSPORT

AIR SERVICES

CIVIL AVIATION BRANCH

Page 1 of 2

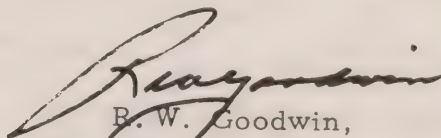
HAZARDS TO AIR NAVIGATION (Supplementing NOTAM 15/68)

Drone Flights in the vicinity of Danger Area CYD 402, Shilo, Man.

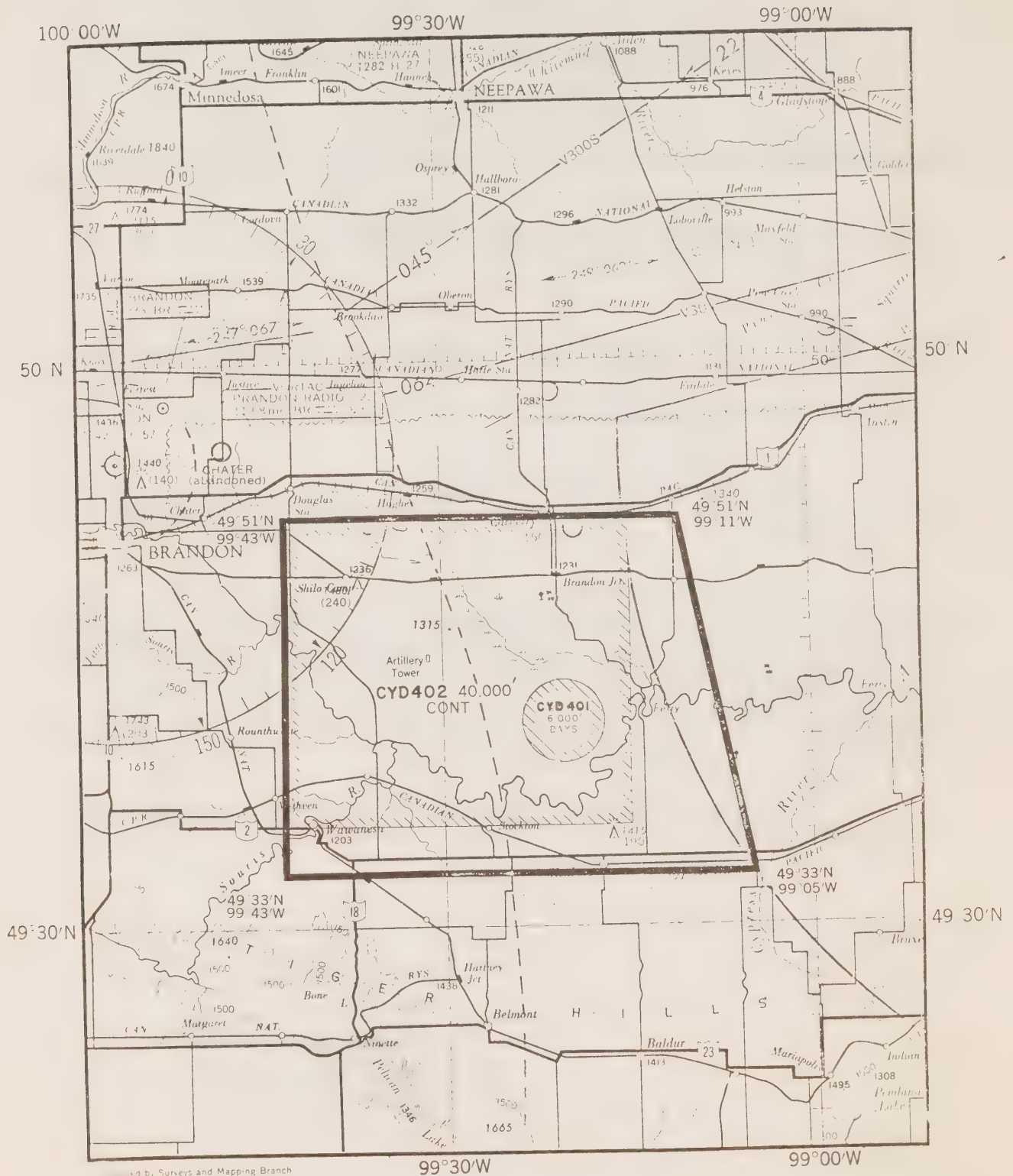
The Department of National Defence will fly jet-powered drone aircraft missions in the vicinity of CYD 402 during the period 15 Aug 1969 to 31 Dec 1969.

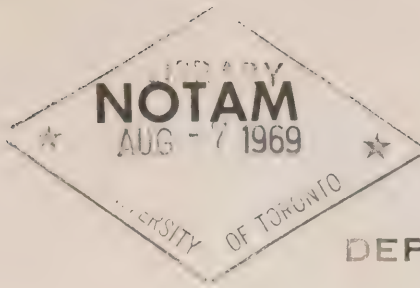
Since the flights cannot be confined to the existing bounds of CYD 402 and because of the hazardous nature of this Military activity, all aircraft are cautioned to remain clear of the airspace below 6000 feet ASL over the area bounded by a line commencing at 49° 51' N, 99° 43' W to 49° 51' N, 99° 11' W to 49° 33' N, 99° 05' W to 49° 33' N, 99° 43' W to the point of beginning, during the period 15 Aug to 31 Dec 1969. The area designated is depicted on the reverse side of this NOTAM.

A Class I NOTAM will be issued in advance of each period of activity in the area.


B. W. Goodwin,
Director, Civil Aviation.

DRONE FLIGHTS - SHILO, MANITOBA



19/69
29th July

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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SPECIAL PROCEDURES AND FACILITIES
LAND AERODROMES

(Superseding NOTAM 9/69 and Supplementing NOTAM 23/68)

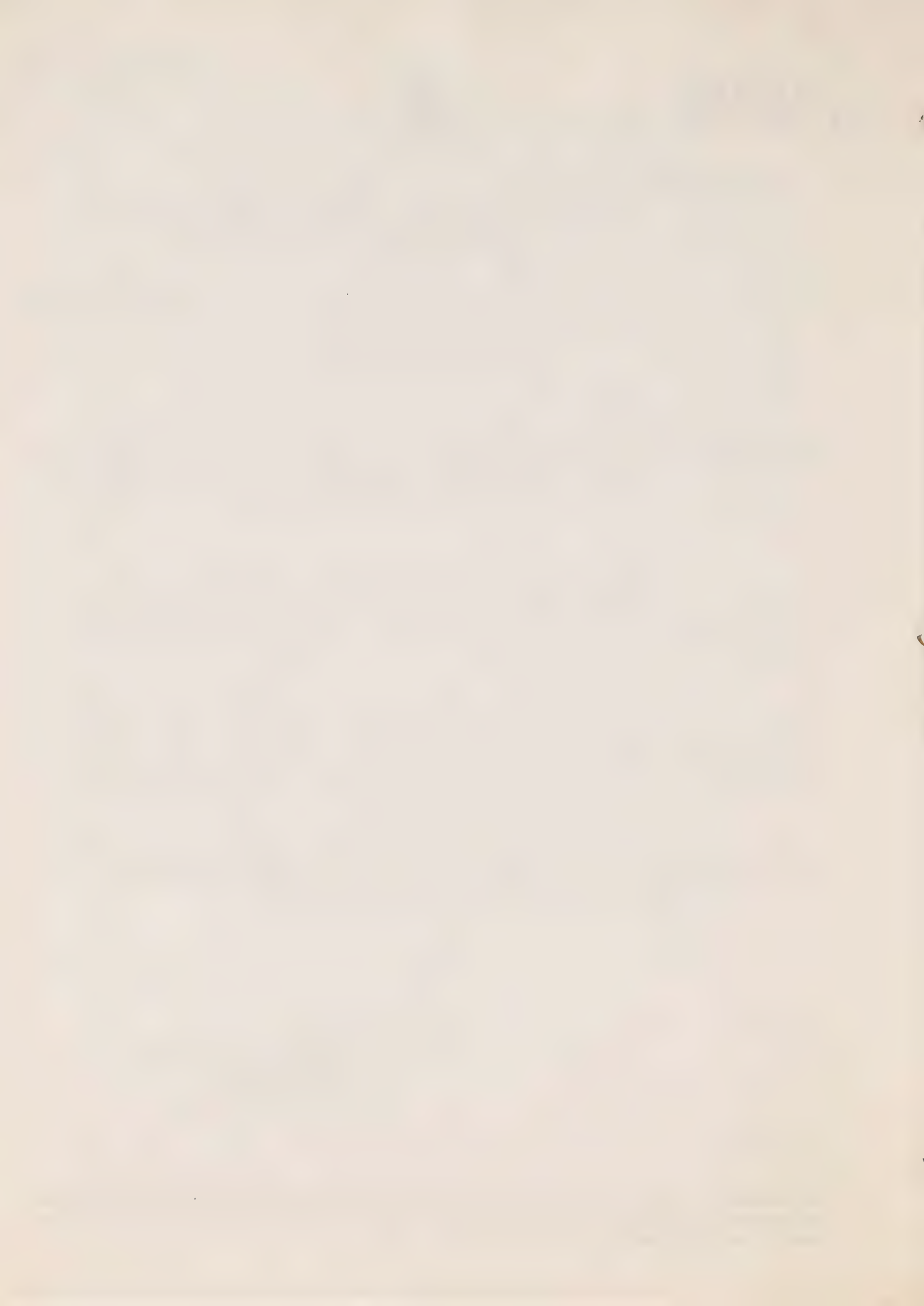
TORONTO INTERNATIONAL AIRPORT - CHARTER FLIGHTS AND OTHER
AIRCRAFT OPERATIONS REQUIRING THE USE OF INTERNATIONAL
INSPECTION FACILITIES

Serious congestion occurs at Toronto International Airport, particularly during the summer months and on long holiday weekends, due to the large number of scheduled and charter flights operating during these periods.

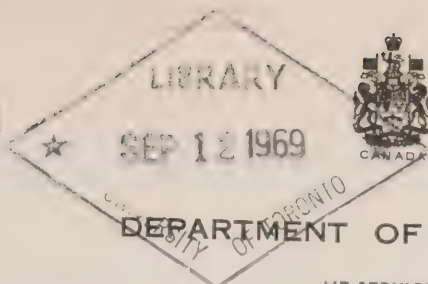
Every effort must be made to schedule charter flights to arrive during the preferred period 0830 to 1330 hours local time. The congested traffic period between 1400 and 2100 hours local time should be avoided if at all possible. This applies most particularly to the months of June to October, and Fridays and Sundays during the whole year.

The Airport Manager is to be advised of all charter operations, including those of regular scheduled operators, as far in advance as possible. Two months prior notice is recommended.


R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Aerodromes - Land

20/69
13th August

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 5

SPECIAL PROCEDURES AND FACILITIES LAND AERODROMES

(Amending NOTAM 23/68)

OTTAWA INTERNATIONAL AIRPORT, ONT.

The whole item concerning Ottawa International Airport on pages 15 and 16 of NOTAM 23/68 is superseded by the following:

Pilots must establish and maintain radio communication with the Ottawa Control Tower prior to operating within the Ottawa Control Zone.

The following portion of this NOTAM is applicable to all turbojet aircraft except as otherwise indicated.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

In order to reduce the level of noise and disturbance created by aircraft over residential areas located near the airport, it has been found necessary to introduce the procedures and restrictions shown below. Strict application of these instructions by all aircraft captains during take-off and landing manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

Preferential Runways

Subject to unusual wind or weather conditions, runways will be selected in accordance with the following factors:

- (i) the physical condition of the runway surface; i.e., dry, wet, ice covered, sanded and braking action;
- (ii) the effective crosswind component shall not exceed 15 knots;
- (iii) the effective downwind component shall not exceed 5 knots.

CALM WIND

PREFERENCE I

Primary Departure Runway	14
Primary Arrival Runway	25
Secondary Arrival Runways	07, 14, 32

EAST QUADRANTAL WIND

PREFERENCE II

Primary Departure Runway	07
Primary Arrival Runway	32
Secondary Arrival Runways	07, 14

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

WEST QUADRANTAL WIND

PREFERENCE III

Primary Departure Runway	25
Primary Arrival Runway	32
Secondary Arrival Runways	25, 14

NORTH QUADRANTAL WIND

PREFERENCE IV

Primary Departure Runway	32
Primary Arrival Runway	32
Secondary Arrival Runways	25, 07

Departure Procedures

Noise abatement climb techniques as approved by the Company or recommended by the aircraft manufacturer shall be used by all aircraft until reaching at least 2,500 feet ASL. However, when a preferential runway is being used this procedure is optional at the discretion of the aircraft captain.

- (a) Runways 25 and 32 - noise abatement climb; climb on runway heading to 3,000 feet ASL before proceeding on course.
- (b) Runways 07 and 14 - preferential runways; climb on runway heading to 3,000 feet ASL before proceeding on course.

Arrival Procedures - VFR

The minimum circuit height shall be 2,500 feet ASL, and aircraft are to maintain this altitude as long as practicable before commencing final descent to the runway. During final approach every effort shall be made to remain on or slightly above the approach slope angle of the ILS, VASIS, or PAR.

- (a) Turns on to final approach shall be completed not less than 6 nautical miles from the runway.
- (b) The use of thrust and the selection of gear and flap settings shall, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement.

TRAINING FLIGHTS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 07, 14 and 22. Airport elevation 374 feet ASL. Circuit height 1,500 feet ASL.

All training flights intending to operate within the confines of the Ottawa Control Zone are restricted to the following hours of operation:

- (a) single-engine aircraft: from 0815 to 2359 hours local time;
- (b) multi-engine jet aircraft: from 0800 to 2200 hours local time daily except Sundays when training flights are not permitted, and, in addition:
- (c) VFR training circuits will not be permitted on runways 14 and 32 when weather conditions necessitate that circuits be flown below 1,500 feet ASL; and
- (d) practice runway procedures to runway 14 are not permitted.

Take-OffRunways 32 and 25

When weather conditions permit, aircraft are to climb on runway heading to 1,500 feet ASL before initiating a turn, unless otherwise authorized by Air Traffic Control.

Runway 22

Departing aircraft must initiate a climbing turn at 1,000 feet ASL in order to remain clear of aircraft operating from runway 25.

Landing

Runways 04, 14 and 17

When weather conditions permit, aircraft are to maintain 1,500 feet ASL until established on final approach to the runway, unless otherwise authorized by Air Traffic Control.

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.



TORONTO INTERNATIONAL AIRPORT, ONT.

The whole item concerning Toronto International Airport on pages 18 and 19 of NOTAM 23/68 is superseded by the following:

Pilots must establish and maintain radio communication with the Toronto Control Tower prior to operating within the Toronto Control Zone.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 14, 23L, 23R and 28.

The following portion of this NOTAM is applicable to all turbojet aircraft.

The use of Toronto International Airport by turbojet aircraft for technical stops or charter operations is not permitted between 2300 and 0700 hours local time.

The introduction of new scheduled flights using turbojet aircraft between the hours of midnight and 0700 hours local time is not permitted.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

In order to reduce the level of noise and disturbance created by aircraft over residential areas located near the airport, it has been found necessary to introduce the procedures shown below. Strict application of these instructions by all aircraft captains during take-off and landing manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

Preferential Runways

Subject to unusual wind or weather conditions, runways will be selected in accordance with the following factors:

- (i) the physical condition of the runway surface, i.e., dry, wet, ice covered, sanded and braking action.
- (ii) the effective crosswind component shall not exceed 15 knots.
- (iii) the effective downwind component shall not exceed 5 knots.

Whenever practicable, Air Traffic Control will assign runways in accordance with the following:

CALM WIND

PREFERENCE I

Arrival Runway	14
Departure Runways	23L, 23R, 28

PREFERENCE II

Arrival Runways	05R and 05L
Departure Runways	32, 05L and 05R

NORTH QUADRANTAL WIND

PREFERENCE I

Arrival Runways	05R, 05L
Departure Runways	32, 05R, 05L

PREFERENCE II

Arrival Runway	32
Departure Runways	32, 05R, 05L

SOUTH QUADRANTAL WIND

PREFERENCE I

Arrival Runway	14
Departure Runways	23L, 23R, 14

PREFERENCE II

Arrival Runways	23L, 23R
Departure Runways	23L, 23R, 14

Departure Procedures

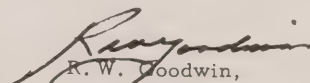
Noise abatement climb procedures are not required at Toronto International Airport. Instead, aircraft are required to climb on runway heading at their maximum allowable rate of climb in order to be at 3,000 feet ASL as soon as possible after take-off.

Arrival Procedures - VFR

The minimum circuit height shall be 2,500 feet ASL and all aircraft are to maintain this altitude as long as practicable before commencing final descent to the runway. During final approach every effort shall be made to remain on or slightly above the approach slope angle of the ILS, VASIS, or PAR.

- (a) Turns on to final approach shall be completed not less than 6 NM from the runway. For runway 32, the turn onto final approach shall be completed over Lake Ontario prior to crossing the shoreline inbound.
- (b) The use of thrust and the selection of gear and flap settings shall, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement.

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.


R.W. Goodwin,
Director, Civil Aviation.

NOTAM



RADIO

21/69
20th August

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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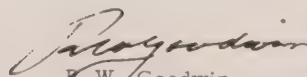
Implementation of New Aeronautical Mobile High
Frequency Assignment Plan - Canadian International
Air-ground Stations.

In accordance with the new Aeronautical Mobile High Frequency (HF) Assignment Plans for the various ICAO Regions the following frequency changes will become effective at the listed Canadian International air-ground stations at 0001 hours Greenwich Mean Time, September 18, 1969.

Location	Frequencies (kHz) in Use Prior to 18th September, 1969.	Frequencies (kHz) Effective 18th September, 1969.
Gander	8947.5	8945.0
	8947.0 (8948.5)*	8945.0 (8946.5)*
	13324.5	13328.0
	13324.0 (13325.5)*	13328.0 (13329.5)*
	13284.5	13288.0
	13354.5	13352.0
	13264.5	13272.0
Resolute	13274.5	13264.0
Vancouver	13274.5	13264.0
Ocean Station Vessel "PAPA"	13274.5	13264.0

*SSB - The assigned (upper sideband) frequency is shown in brackets.

Air-ground communications service on the frequencies listed in the first column of frequencies above will be discontinued at 0001 hours Greenwich Mean Time, September 18th, 1969 at which time aircraft using these frequencies must change to the new frequencies to maintain communications with the above noted air-ground stations.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Aerodromes - Land

22/69
28th Aug.

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

SPECIAL PROCEDURES AND FACILITIES LAND AERODROMES

(Supplementing and Amending NOTAM 23/68)

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SECTION I WINNIPEG TO ATLANTIC OCEAN

CARTIERVILLE, QUE.

The hours of operation for Cartierville Tower as outlined in NOTAM 23/68 is amended to read:

The normal hours of operation for Cartierville Tower are 0800 hours local time to one-half hour after sunset.

DEBERT, N. S.

Extensive IFR and VFR military air operations are conducted within a radius of 10 nautical miles of the Debert, N. S. Aerodrome from ground level to 2500 feet ASL at periodic intervals. A Class 1 NOTAM will be issued in advance of each operational period.

In the interest of safety, pilots of non-participating aircraft are cautioned to avoid this area when military air operations are in progress. It is suggested that pilots contact Halifax Terminal Control for traffic information prior to operating within the area.

HAMILTON, ONT.

Pilots must establish and maintain radio communication with the control tower prior to operating within the control zone. If unable to establish radio communication with the control tower, pilots must remain clear of the control zone unless prior approval for flight within the zone has been obtained from the control tower.

MONTREAL INT'L. AIRPORT, QUE.

The hours of operation for Cartierville Tower as outlined under the SPECIAL NOTE for Montreal Airport is amended to read:

The normal hours of operation for Cartierville Tower are 0800 hours local time to one-half hour after sunset.

The paragraph on AIRCRAFT NOISE MONITORING is amended to read:

Fully automatic noise monitoring equipment has been installed on the approaches to runways 06L, 06R and 24L. In addition, mobile equipment is available for monitoring aircraft noise in any area around the airport.

WATERLOO-WELLINGTON, CNT.

Pilots must establish and maintain radio communication with the control tower prior to operating within the control zone. If unable to establish radio communication with the control tower, pilots must remain clear of the control zone unless prior approval for flight within the zone has been obtained from the control tower.

SECTION II WINNIPEG TO PACIFIC OCEAN

CALGARY, ALTA.

Calgary airport, Alta. has been designated as an International Airport effective July 1st, 1969.

EDMONTON INDUSTRIAL, AIRPORT, ALTA.

The item in NOTAM 23/68 covering the Edmonton Industrial Airport is cancelled in its entirety. The following is now in effect.

Pilots must establish and maintain radio communication with the control tower prior to operating within the control zone. If unable to establish radio communication with the control tower, pilots must remain clear of the control zone unless prior approval for flight within the zone has been obtained from the control tower.

Aircraft maximum gross weight restricted to 120,000 pounds. Runway 03-21 restricted to daylight operations only. To minimize noise disturbance, the procedures below should be followed unless otherwise directed by ATC.

- (1) Runway 16-34 to be used during calm (no wind) conditions.
- (2) Runway 11: Aircraft gross weight for take-off restricted to 12,500 pounds.
- (3) Runway 29: Aircraft gross weight for landing restricted to 30,000 pounds between 2100 and 0700 hours MST.
- (4) Simulated Instrument Approach Procedures: No descent below published minimum altitude is permitted unless a full stop landing is intended. Practice ILS missed approach is to be commenced at the middle marker.

NOTE: Right hand circuits are in effect for runways 21, 29 & 34.

EDSON, ALTA.

Right hand circuits are in effect for runway 07.

KIMBERLEY, B. C.

This entry is deleted in its entirety. The area formerly known as Kimberly Aerodrome, is now a residential development.

PONOKA, ALTA.

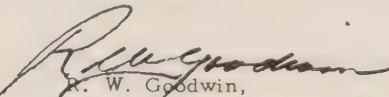
Right hand circuits are in effect for runway 16.

PUNTZI MOUNTAIN, B. C.

This entry is deleted in its entirety.

SPECIAL NOTE:

The Positive Control Zone Order (ANO Series V, No. 21) affects many aerodromes listed in NOTAM 23/68, making amendment action mandatory. Therefore, holders of NOTAM 23/68 should amend their copy appropriately. The list of aerodromes falling into the Positive Control Zone category, will be found in NOTAM 15/69.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



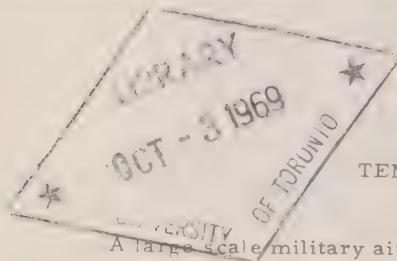
Restricted Airspace

23/69
8th September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2



TEMPORARY RESTRICTED AIRSPACE

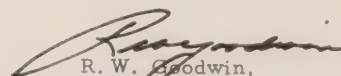
A large scale military air exercise to be known as Snowtime 70-2-E will take place over eastern Canada between 0315 hours and 1045 hours Greenwich Mean Time on October 29, 1969.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

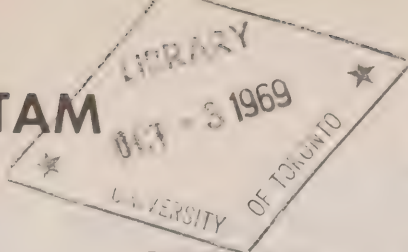
Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|--------------|--|
| AREA I | - between flight level 200 and flight level 450 between 0315 hours and 1000 hours Greenwich Mean Time on October 29, 1969. |
| SUB AREA I | - below flight level 200 between 0715 hours and 1045 hours Greenwich Mean Time on October 29, 1969. |
| SUB AREA II | - below flight level 200 between 0545 hours and 0815 hours Greenwich Mean Time on October 29, 1969. |
| SUB AREA III | - below flight level 200 between 0650 hours and 0830 hours Greenwich Mean Time on October 29, 1969. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Hazards Publications

24/69
15th September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 4

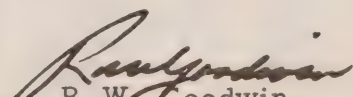
Autumn Migration - Geese, Cranes, Swans, Ducks (Superseding NOTAM 7/69 and supplementing 15/68)

The accompanying charts depict the Autumn migration flyways and staging areas by which these birds generally proceed southward in Canadian airspace. Indicated also are the approximate numbers of birds involved, the periods during which the flyways may be used by the various species, and the altitudes at and below which flocks may be encountered.

Geese, cranes and swans normally move south with following winds. They depart from staging areas 12 to 24 hours after the passage of a cold front, especially if there is rapid clearing and there are strong northerly winds behind the front. Flight speeds will be wind speeds/plus 30 to 40 knots. The altitude of the flocks will depend upon the distance from the staging area using a rate of climb which will not exceed 125 feet per minute up to the optimum altitude for each particular flight. The birds take off from the staging areas in late afternoon for night flights. Occasionally however, with favouring winds they may fly by day as well. These birds weigh from $3\frac{1}{2}$ to 25 pounds.

Ducks migrate over the whole area indicated on the chart, at low altitudes, during September, October and November. They weigh from 1 to 4 pounds.

Pilots are urged to plan flights, in so far as is possible, to avoid the airspaces in which flocks of migrating birds may be expected during the periods indicated.


R. W. Goodwin,
Director, Civil Aviation.

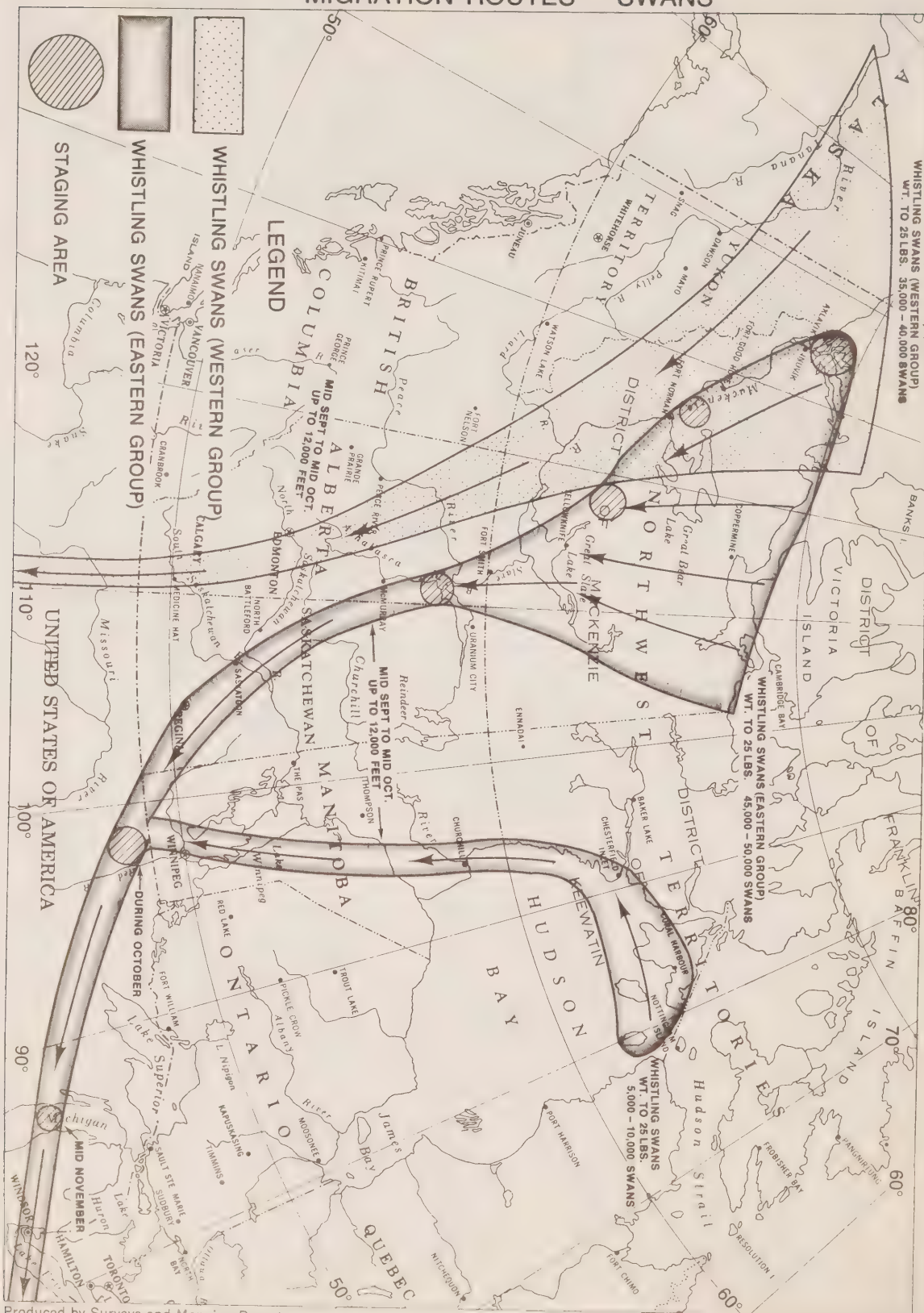
MIGRATION ROUTES - CRANES, GEESE AND DUCKS



MIGRATION ROUTES - GEESE



MIGRATION ROUTES – SWANS



NOTAM



Aerodromes - Water

25/69
18th September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

SPECIAL PROCEDURES AND FACILITIES - WATER AERODROMES (Pending publication in Canada Air Pilot Water Aerodrome Supplement)

WAVERLEY, N. S.

The Halifax Flying Club operations at Waverley, N. S. , have been discontinued.

The bay at the North end of Lake William is not to be used for seaplane operations. See accompanying chart.

The information concerning Waverley, N. S. water aerodrome as published in Canada Air Pilot Water Aerodrome Supplement is to be amended to read as follows in respective columns:

<u>Aerodrome</u>	<u>Location</u>	<u>Elevation</u>
Waverley, N. S.	44° 46' 29' N 63° 35' 06' W	61'

Alighting Area - Lake William, N. S. , 1.7 miles x 1000'

The bay at the North end of the Lake is not to be used for seaplane operations.

The bay at the South end of the Lake is not to be used for landings and take-offs. Taxi with care in this bay.

CAUTION

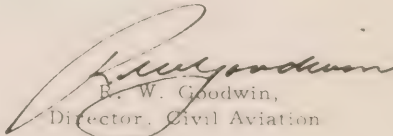
Power line 310 feet ASL 0.5 NM along East side of lake.

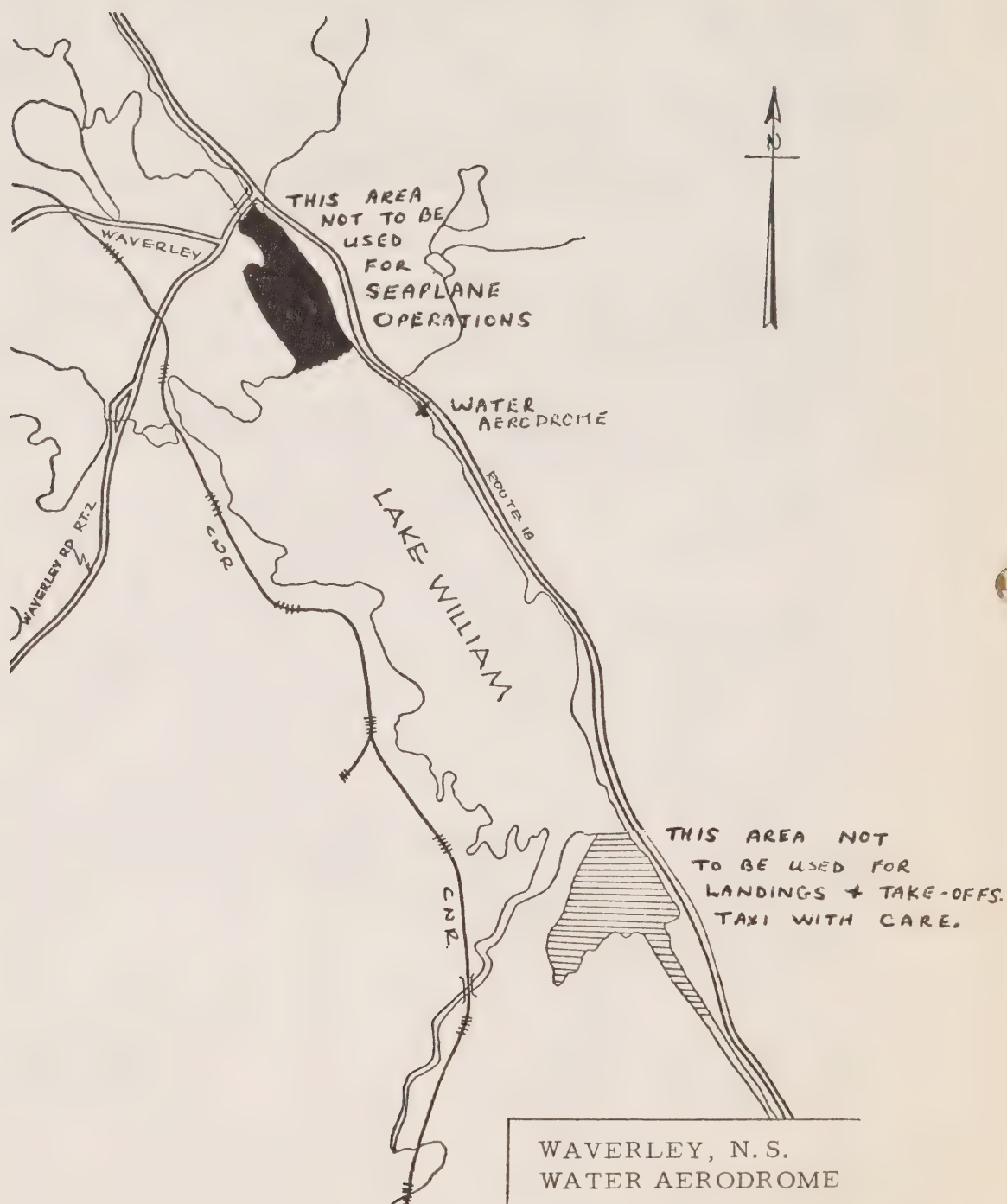
MOORINGS

Slipway. Sheltered. Seaplanes are not to be operated within 200 feet of shoreline except during arrival or departure from an anchorage.

REMARKS

Telephone, Telegraph, bus and taxi at Waverley, 1 NM North. Oper: Nova Scotia Dept. of Lands and Forests.


E. W. Goodwin,
Director, Civil Aviation



NOTAM



Air Traffic Control

26/69
30th September

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Publications

Page 1 of 53

AIR TRAFFIC CONTROL PROCEDURES

(Superseding NOTAM 12/69, 3/69, 21/68, 17/68, 11/68, 6/68, 3/68, 27/67, 4/67;
and Information Circular 0/4/69.)

New or revised data is indicated by a vertical line.

This NOTAM is a consolidation of those NOTAM and the Information Circular listed above for the purpose of providing in one document guidance material on ATC procedures.

Any errors or omissions which are apparent in this document, or any suggestions for improvement, should be forwarded in writing to the Director, Civil Aviation Branch, Department of Transport, Ottawa 4, Ontario.


SUMMARY

Additions

Call Sign Procedures - Civil Aircraft
Transmission of Numbers - Phonetic Alphabet
Acknowledgement of ATC Messages
Visual Approach Procedures
Communication Failure During Radar Vectors
Stop-over Flight Planning Procedures

Revisions

Taxi Clearance Procedures - change in sequence of issuing data
Holding Procedures - clarifies on which side of a
fix an aircraft shall be held; and amplifies procedures
for adjusting aircraft path to compensate for known wind.
Re-location of cross-wind leg of standard traffic circuit
to prevent confliction between high performance departing
aircraft and circuit traffic
Special Procedures for the Gander Oceanic Control Area
which were contained in NOTAM 3/68 as applicable on a
trial basis have now been approved by ICAO for implementation
in the NAT Region and are included in this NOTAM


R. W. Goodwin,
Director, Civil Aviation.

Air Traffic Control Procedures

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AIR TRAFFIC CONTROL PROCEDURES

GENERAL

AIR TRAFFIC SERVICES

Airport Control Service: Control towers provide this service to aircraft and vehicles on the manoeuvring area of an airport and to arriving and departing aircraft operating in the vicinity of an airport.

Area Control Service: Area control centres (ACC) provide this service to IFR and Controlled VFR flights operating within controlled airspace.

Terminal Control Service: This service is provided by either an ACC or a terminal control unit (TCU) to arriving and departing IFR aircraft at major airports.

Extended Terminal Control Service: An additional service provided to VFR aircraft operating within high density traffic areas.

Alerting Service: The service provided by ACCs and towers to notify appropriate organizations regarding aircraft in need of Search and Rescue aid, alerting of crash equipment, ambulances, doctors and any other such safety services.

Flight Information Service: Air traffic control units provide, wherever possible, advice and useful information for the safe and efficient conduct of flights.

Airspace Reservation Service: The service provided by the Airspace Reservation Co-ordination Office (ARCO) and ACCs to provide reserved airspace for specified air operations in controlled airspace and to provide information concerning these reservations.

Customs Notification Service (ADCUS): The service provided, on request, by ATC units for advance notification to Custom Officials for trans-border flights at specified "ports of entry". Complete information is contained in the Information Circular entitled "Customs and Immigration".

IDENTIFICATION OF AIR TRAFFIC CONTROL UNITS

Air traffic control units are identified by the name of the airport or location, followed by the appropriate indication of the unit or function concerned.

Examples:

OTTAWA TOWER - airport control tower.
OTTAWA GROUND - ground control function of control tower.
OTTAWA CLEARANCE DELIVERY - IFR clearance delivery function.
CALGARY TERMINAL - terminal control unit.
CALGARY ARRIVAL - arrival control function of terminal control unit.
CALGARY DEPARTURE - departure control function of terminal control unit.
CALGARY PRECISION - precision radar approach facility.
MONCTON CENTRE - area control centre.

Since surveillance radar, where available, is used by all controllers in the provision of control service, it is not necessary to use the word "radar" in the identification of an ATC unit in order to obtain radar service.

CALL SIGNS - CIVIL AIRCRAFT

In radiotelephony, civil aircraft should be identified as follows:

Canadian Air Carriers - the operator's name or assigned designation followed by:

- (a) the flight number, or
- (b) the last three characters of the registration.

Foreign Air Carriers - the operator's name or assigned designation followed by:

- (a) the flight number, or
- (b) the full aircraft registration.

Operator of Canadian Private Aircraft - the manufacturer's name or type of aircraft followed by the last three characters in the registration, e.g., Cessna ADT.

Operator of Foreign Private Aircraft - the manufacturer's name or type of aircraft followed by the full aircraft registration, e.g., Aztec N 6379P.

After communication has been established and when no likelihood of confusion exists, abbreviated call signs may be used as follows:

Canadian Air Carrier - no abbreviations permitted.

Foreign Air Carrier - where operator's name or assigned designator followed by aircraft registration is used, the registration may be abbreviated to not less than the last 2 characters, e.g., Speed-bird G-ABCD becomes Speedbird CD.

Operator of Canadian Private Aircraft - manufacturer's name or type of aircraft may be omitted, e.g., ADT.

Operator of Canadian Private Aircraft - abbreviate to first and last three characters of the registration. Manufacturer's name or type of aircraft may be omitted, e.g., N 79P.

UNITS OF MEASUREMENT

The following units of measurement are used in the Canadian ATC system.

Speed

Knots, except in the case of surface wind speed which is reported in statute miles per hour.

Distance

Nautical miles, except in the case of visibility which is reported in statute miles.

Time

Greenwich Mean Time (GMT or "Z") and the 24-hour clock system are used for all operational purposes.

Time is normally expressed in four figures, the first two indicating the hour past midnight, the last two indicating the minutes. When no misunderstanding is likely to occur, time may be expressed in minutes only (2 figures).

The time group 0000Z is used to indicate the start of the new day, e.g., 152359Z, 160000Z.

To convert from standard time (24-hour clock)

to Greenwich Mean Time

Newfoundland	ADD 3½ hrs.
Atlantic	ADD 4 hrs.
Eastern	ADD 5 hrs.
Central	ADD 6 hrs.
Mountain	ADD 7 hrs.
Pacific	ADD 8 hrs.
Yukon	ADD 9 hrs.

Where daylight saving time is in use, reduce conversion factors by one hour.

Flight crews are responsible for ensuring the accuracy of their clocks or other time recording devices. Time checks will be given to departing aircraft on initial contact with ground control or tower, and to other aircraft on request. Time checks will be given in four figures to the nearest minute, e.g., two two three four.

NUMBERS

Numbers, generally, are to be transmitted by pronouncing each digit separately.

Examples:

10	One Zero
75	Seven Five
100	One Zero Zero
583	Five Eight Three
1735	One Seven Three Five
11002	One One Zero Zero Two
38143	Three Eight One Four Three

Cruising altitudes within

- (a) the altimeter setting region are expressed in thousands and hundreds of feet, e.g., 4500 - four thousand five hundred, 11000 - one one thousand, 17500 - one seven thousand five hundred.
- (b) the standard pressure region are expressed in terms of flight levels with each digit spoken separately, e.g., FL 190 - flight level one nine zero, FL 270 - flight level two seven zero.

Decimal points are indicated by the word "DECIMAL".

Example:

118.1 One One Eight Decimal One

Headings are defined in degrees magnetic, expressed as a three-digit number, omitting the word "degrees". "Heading 360" is used to signify a north heading.

Example:

005 degrees	HEADING ZERO ZERO FIVE
030 degrees	HEADING ZERO THREE ZERO
350 degrees	HEADING THREE FIVE ZERO

PHONETICS

Phonetic letter equivalents should be used for single letters or to spell out groups of letters or words whenever considered necessary to ensure understanding. Pilots are encouraged to use phonetics in aircraft call signs, especially on the initial contact.

The International Civil Aviation Organization (ICAO) phonetic equivalents should be used:

A - ALFA	J - JULIETT	S - SIERRA
B - BRAVO	K - KILO	T - TANGO
C - CHARLIE	L - LIMA	U - UNIFORM
D - DELTA	M - MIKE	V - VICTOR
E - ECHO	N - NOVEMBER	W - WHISKEY
F - FOXTROT	O - OSCAR	X - X-RAY
G - GOLF	P - PAPA	Y - YANKEE
H - HOTEL	Q - QUEBEC	Z - ZULU
I - INDIA	R - ROMEO	

0 - ZE-RO	5 - FIFE
1 - WUN	6 - SIX
2 - TOO	7 - SEV-en
3 - TREE	8 - AIT
4 - FOW-er	9 - NIN-er

Capitalized syllables are given equal stress; e.g., ZE-RO. When only one syllable is capitalized, that syllable is given primary stress; e.g., NIN-er.

Acknowledgement of ATC Messages

A pilot shall acknowledge the receipt of all ATC messages directed to and received by him. Such acknowledgement may take the form of a transmission of the aircraft call sign; the call sign followed by an appropriate word(s); or, in cases where the text of the message includes the aircraft call sign, a read-back of the message by the pilot will constitute acknowledgement.

Examples:

ATC: JAH OTTAWA TOWER CLEARED TO LAND.

Pilot: JAH.

ATC: JAH ARE YOU AT FIVE THOUSAND.

Pilot: JAH AFFIRMATIVE.

NOTE: Clicking of the microphone button as a form of acknowledgement is not considered acceptable radio procedure.

ATC CLEARANCES AND INSTRUCTIONS

Whenever an air traffic control clearance is received and accepted by the pilot, he shall comply with the clearance. If a clearance is not acceptable, the pilot should immediately inform ATC of this fact, since acknowledgement of the clearance, alone, will be taken by a controller as indicating acceptance. For example, on receiving a clearance for take-off, the pilot should acknowledge the clearance and take-off without undue delay or, if not ready to take-off at that particular time, inform ATC of his intentions in which case the clearance may be changed or cancelled.

A pilot shall comply with an air traffic control instruction which is directed to and received by him.

A clearance will be identified by use of some form of the word "clear" in its content. An instruction will always be worded in such manner as to be readily identified, although the word "instruct" will seldom be included.

Remember that control is predicated on known air traffic only and, when complying with clearances or instructions, pilots are not relieved of the responsibility for practicing good airmanship.

RADAR

The use of radar increases airspace utilization by allowing ATC to reduce the separation interval between aircraft. In addition, radar permits an expansion of flight information services such as traffic and weather information, navigation assistance, and assistance to lost aircraft.

Radar Systems

Four basic types of radar systems are currently in use. These are:

Airport and Airways Surveillance Radar (AASR) - a medium range radar designed for both airway and airport surveillance applications.

Airport Surveillance Radar (ASR) - relatively short range radar intended primarily for surveillance of airport and terminal areas.

Precision Approach Radar (PAR) - a high definition, short range radar used as an approach aid. This system provides the controller with altitude, azimuth and range information of high accuracy for the purpose of assisting the pilot in executing an approach and landing. This form of navigational assistance is termed a "Precision Radar Approach".

Secondary Surveillance Radar (SSR) - a radar system that requires complementary aircraft equipment (transponder). The transponder generates a coded reply signal in response to transmissions from the ground station (interrogator). Since this system relies on transponder generated signal rather than signal reflected from the aircraft, as in primary radar, it offers significant operational advantages such as increased range and positive identification.

Radar Procedures

Before providing radar service, ATC will establish identification of the aircraft concerned. Pilots will be notified whenever radar identification is established or lost.

Examples:

RADAR IDENTIFIED, or
RADAR IDENTIFICATION LOST.

Radar vectoring is used when necessary for separation purposes, when required by noise abatement procedures, when requested by the pilot, or whenever vectoring will offer operational advantages to the pilot or the controller. When vectoring is initiated, the pilot will be informed of the location to which the aircraft is being vectored.

Examples:

TURN LEFT HEADING 050 FOR VECTORS TO VICTOR 300.
MAINTAIN HEADING 020 FOR VECTORS TO THE VANCOUVER VOR 054
RADIAL.
DEPART KLEINBURG BEACON ON HEADING 240 FOR VECTORS TO FINAL
APPROACH COURSE.

Pilots will be informed when radar vectoring is terminated, except when an arriving aircraft is vectored to the final approach course or to the traffic circuit.

Example:

RESUME NORMAL NAVIGATION.

When an aircraft is vectored to final approach or to the traffic circuit, the issuance of approach clearance indicates that normal navigation should be resumed.

Normally radar service will be continued until an aircraft leaves the area of radar coverage, enters uncontrolled airspace, or is transferred to an ATC unit not equipped with radar. When radar service is terminated the pilot will be informed accordingly.

Example:

RADAR SERVICE TERMINATED.

Obstacle Clearance During Radar Vectors

The pilot of an IFR flight is responsible for ensuring that his flight is operated with adequate clearance from obstacles and terrain, as specified in The Air Regulations, Section 551. However, when an IFR flight is being radar-vectored, air traffic control will ensure that the appropriate obstacle clearance is provided.

Minimum radar transition altitudes, which may be lower than minimum altitudes shown on navigation and approach charts, have been established at a number of locations to facilitate

transitions to instrument approach aids. When an IFR flight is cleared to descend to the lower altitude, ATC will provide terrain and obstacle clearance until the aircraft is in a position from which an approved instrument approach or a visual approach can be commenced.

If a communication failure occurs while a flight is being vectored at an altitude below the minimum IFR altitudes shown on the instrument approach chart, the flight should climb immediately to the appropriate published minimum altitude, unless able to continue in VFR weather conditions.

Secondary Surveillance Radar

Regulations concerning transponders are contained in the "Secondary Surveillance Radar Transponder Order (ANO, SERIES II, No. 10)". When instructions concerning transponder operation are received from ATC, the transponder shall be operated as directed until further instructions are received or until the aircraft has landed, except in the case of an emergency or communication failure.

Air traffic controllers will use the following phraseology when referring to the operation of transponder equipment:

NOTE: Mode A is known to military pilots as "mode three", therefore ATC refers to this mode as "alpha three".

SQUAWK ALPHA THREE CODE (number) - Operate transponder on specified mode and code. (Transponder has not been operating on Mode A/3).

SQUAWK CODE (number) - Operate transponder on specified code. (Transponder is already operating on Mode A/3).

SQUAWK IDENT - Engage the identification ("IDENT") feature of the transponder.

SQUAWK CODE (number) AND IDENT - Operate transponder on a different code and engage the "IDENT" feature. (Transponder is already operating on Mode A/3.)

SQUAWK ALPHA THREE CODE (number) AND IDENT - Operate transponder on specified mode and code and engage the "IDENT" feature. (Transponder has not been operating on Mode A/3.)

SQUAWK STANDBY - Switch transponder to "standby" position, retaining present mode and code.

SQUAWK LOW/NORMAL - Operate transponder on low or normal sensitivity, as specified. (Transponder is operated on normal sensitivity unless ATC specified "low". "ON" is used instead of "NORMAL" as a label on some transponder control panels.)

SQUAWK MAY DAY CODE SEVEN SEVEN - Operate transponder on Mode A/3, Code 77.

STOP SQUAWK - Switch off transponder.

At the present time, ATC makes use of only the basic 64 codes in Mode A/3. In the assignment of codes, a two-digit code designation is used; e.g., Code 21 will be stated as Code Two One. When the aircraft is equipped with four-digit code, the pilot shall select the designated digits followed by two zeros, e.g., Code 21 assignment - select 2100.

In the near future, SSR with 4096 code capability will be in operation in the Canadian ATC environment. Four-digit code assignment will then be put into practice in conjunction with revised procedures for SSR code allocation.

FLIGHT PLANNING

Air Navigation Order, Series V, No. 4 defines the requirements respecting flight plans and flight notifications. Prior to undertaking the operation of an aircraft, pilots should become familiar with current flight planning procedures.

In the interest of safety, pilots are urged to file flight plans or flight notifications at all times, irrespective of the requirements of the regulations. This practice will provide ATC with information of particular significance if an aircraft fails to arrive at destination.

Since ATC flight following action is based primarily on information provided by the pilot, it is most essential that modifications to flight plans and flight notifications be communicated to the agency or person concerned as soon as possible after the change occurs.

VFR FLIGHT PLANS

Requirements: VFR flight plans are required under the following circumstances:

- (a) at night, or
- (b) to or from a military aerodrome,

except if such flight will be wholly or partly within a sparsely settled area (See ANO Series V, No. 12).

NOTE: Normally flight notifications are filed for flights wholly or partly within sparsely settled areas. However, a VFR flight plan may be filed if the flight begins and ends at a communications base.

Filing Procedures: Flight plans may be filed at an air traffic control unit either directly, or through a communications base such as:

- (a) an aeradio station,
- (b) an operations office (e.g., flying club, airline dispatch, etc.),
- (c) a designated airport office, etc.,
- (d) a location served by commercial telephone, radio, etc.

NOTE: Because of possible overloading, air-ground communications frequencies should not be used for the filing of flight plans and flight notifications where alternate methods are available.

When a flight will involve one or more intermediate stops enroute, a single flight plan covering the entire flight may be filed, provided:

- (a) the stop will be of short duration (for purposes such as boarding passengers, refueling, etc.);
- (b) each intermediate stop is indicated by repeating the name of the stopping point in the "Route";
- (c) the duration of each stop is indicated in "Other Information".

Example: "Stops 0 + 30 and 0 + 45".

When intermediate stops are planned, the "Estimated Elapsed Time" must be calculated as the total time to the final destination, including the duration of the intermediate stop(s).

Arrival Reports: In compliance with section 537 of the Air Regulations, arrival reports must be submitted to an ATC unit or an appropriate communications base within 30 minutes after landing. If this is not done, "Search and Rescue" proceedings may be initiated by the agency concerned.

Pilots who choose to file flight plans, rather than flight notifications, to remote locations such as a farm, ranch, lake, resort, etc., which are outside of designated sparsely settled areas, are cautioned to first make certain that adequate communications are available at destination to permit the filing of an arrival report with ATC within one-half hour after landing. It is important when filing a flight plan for this type of flight that the pilot insert, in the "Other Information" box on the flight plan form, specific information indicating how and from what place his arrival will be reported to ATC.

Example:

"Arrival report - telephone from Jones' farm two mile SE Kerrobert to Saskatoon Tower".

The pilot is at all times responsible for the closing of his flight plan. It should not be taken for granted that ATC personnel will automatically file arrival reports at locations served by control towers.

DEFENCE VFR FLIGHT PLANS AND DEFENCE FLIGHT NOTIFICATIONS

Air Navigation Order, Series V, No. 14 defines the conditions under which DVFR flight plans and Defence flight notifications are to be filed. In general, these regulations apply only to aircraft operating at a true airspeed of 180 knots or more.

Essentially, no person shall operate an aircraft into or within a Canadian Air Defence Identification Zone or the DEWIZ unless an IFR or DVFR flight plan or Defence flight notification has been filed with an appropriate ATC unit.

If intermediate stops enroute are planned, separate flight plans must be filed for each stage of the flight unless a flight notification is filed.

IFR FLIGHT PLANS

Requirements: The Air Regulations require that prior to taking off from any point within and prior to entering any controlled airspace during IFR flight, or during IFR weather conditions, a flight plan for the flight containing such information as may be specified by the regulations shall be submitted by the pilot-in-command of the aircraft to the appropriate air traffic control unit.

The timely filing of IFR flight plans with Air Traffic Control is essential to allow control personnel time to extract and record the relevant content, correlate this new data with available information on other traffic under control, coordinate as necessary and determine how the flight may best be integrated with the other traffic.

Accordingly, in order to assist ATC in improving the service provided and to allow for sufficient time for input into the ATC Data Processing system, pilots are urged to file IFR flight plans as early as practicable, preferably 30 minutes prior to their proposed departure time, and to be prepared to depart as closely as possible to the proposed departure time specified in the flight plan. Compliance with this procedure will minimize departure delays.

NOTE: An IFR flight plan may be filed in lieu of a flight notification when the flight is non-stop and commences and terminates at a communications base.

Filing Procedures: IFR flight plans may be filed at an air traffic control unit either directly or through a communications base. Since ATC utilizes flight plan data in the application of separation standards, pilots should make certain that all significant flight plan modifications such as changes in route, airspeed, destination, etc., are communicated to the appropriate ATC unit.

Flight plans involving intermediate stops enroute may be filed at the initial point of departure under the following conditions:

- (a) for scheduled air carrier flights, provided flight plans are filed in accordance with procedures established by the Area Control Centre concerned;
- (b) for international flights with final destination in a country other than the U. S. A., provided separate flight plans for each stage of the flight are filed;
- (c) for other flights, provided:
 - (i) only one intermediate stop is involved;
 - (ii) both the initial point of departure and the stopping point are in Canada;
 - (iii) the stop will be of short duration (for purposes such as boarding passengers, refueling, etc.); and

- (iv) separate flight plans for each stage of the flight are filed.

Arrival Reports and Cancellations: The pilot of an IFR flight for which a flight plan has been filed, shall report his arrival time to an ATC unit or communications base as soon as possible after landing.

Pilots may cancel IFR flight plans or change to VFR flight plans provided they are operating in VFR weather conditions, and are outside the Block Airspace and the controlled airspace between FL 230 and FL 450.

Where conditions indicate that the remainder of a flight can be conducted in accordance with VFR, the pilot will notify ATC by transmitting one of the following messages:

- (a) to cancel an IFR flight plan:
"CANCEL IFR FLIGHT PLAN", or
- (b) to revise an IFR flight plan to a VFR flight plan:
"CHANGE FLIGHT PLAN TO VFR".

Only an acknowledgement should be expected when either of the above messages is transmitted. These procedures should not be used when IFR conditions are expected in a subsequent portion of a flight. If, however, following the use of either of these procedures, subsequent IFR operation becomes necessary, a new IFR flight plan must be filed and an ATC clearance received before encountering IFR conditions.

It is drawn to the attention of pilots that under conditions requiring the filing of a flight plan for VFR flight, the phraseology in (b) must be used as that in (a) cancels the existing flight plan and the flight will continue operation with no flight plan.

FLIGHT NOTIFICATIONS

Requirements: Flight notifications are required under the following conditions:

- (a) flights wholly or partly within the sparsely settled areas (except IFR flights within controlled airspace).
- (b) flights normally requiring a flight plan but due to inadequate communications facilities would be unable to file a flight plan, or submit an arrival report within the prescribed time.

Filing Procedures: Flight notifications may be submitted to:

- (a) an air traffic control unit (as for flight plans).
- (b) a responsible person if communications facilities are inadequate to permit filing with ATC.

NOTE: Where the flight is to a military aerodrome, the Flight Notification must be filed with an ATC unit.

Arrival Reports: Arrival reports for flight notifications filed with ATC units must be submitted within 24 hours of the termination of the flight. In the case of a flight notification filed with a responsible individual, the onus remains with the persons involved to mutually determine the flight following action desired.

AVOIDANCE OF SPECIFIED AIRSPACE

Under certain conditions it is considered necessary to limit flying in specified Canadian airspace.

Information concerning such airspace and the nature of the limitations imposed may be found in the following documents and directives:

- (a) Air Navigation Orders, Series V,
No. 9 - Restricted Airspace

No. 10 - Flight Restrictions, National, Provincial and Municipal Parks.

- (b) Designated Airspace Handbook
Section 9 - Danger, Restricted and Military Flying Areas.
- (c) Notices to Airmen - temporary restrictions to flight are normally covered by NOTAM action, e.g., airspace reservations, etc.
- (d) Information Circulars -
0/7/69 Avoidance by Aircraft - Dominion Radio Astrophysical
Observatory - Penticton, B. C. Section I. Conservation Laws.

In general, flight may be permitted subject to prior approval within a "restricted area"; and is undertaken at the pilot's discretion within a "danger area". This applies to both IFR and VFR aircraft.

MILITARY FLYING AREAS (MFA)

Pilots undertaking flight within the high level structure should take into account published Military Flying Areas when planning their route of flight.

Military Flying Areas are reserved for the use of military training and testing exercises and civil aircraft are not permitted to operate within these areas. When operational requirements permit, the Military may release specified portions of a MFA to ATC in order to accommodate transiting civil aircraft. However, this should be considered the exception rather than the rule and pilots should plan their route of flight so as to avoid these areas.

MFAs are indicated on Canadian Radio Navigation High Level Charts as well as being listed in the Designated Airspace Handbook.

MILITARY ACTIVITY AREAS (MAA)

Occasionally, heavy military flying is carried out within pre-determined blocks of uncontrolled airspace. These are termed "military activity areas". Pilots of aircraft, especially if operating under instrument weather conditions, are advised to remain clear of MAAs. Notification of proposed military activity is accomplished by means of a Class I NOTAM which is published at least 24 hours in advance of the exercise.

AIRSPACE RESERVATIONS (ASPRV)

An airspace reservation is a block of controlled airspace reserved for the sole use of an agency during a specified time.

Although ATC will not clear an unauthorized flight into an active ASPRV, pilots, in planning routes and altitudes, should take into account any known airspace reservations that may have an impact on their proposed itinerary. Class I NOTAM are issued for all ASPRV activity except for that of a purely local nature.

Standard separation is provided by ATC between IFR traffic and reserved airspace.

TRANSPONDER/DME - EQUIPPED AIRCRAFT

When filing a flight plan for IFR or controlled VFR flight, the pilot of an aircraft equipped with a transponder, DME equipment, or both, shall indicate equipment capability by adding a suffix to the aircraft type as follows:

- /X - Transponder with no code capability.
- /T - Transponder with 64 code capability.
- /U - Transponder with 4096 code capability.
- /D - DME
- /L - DME and transponder with no code capability.
- /B - DME and transponder with 64 code capability.
- /A - DME and transponder with 4096 code capability.
- /M - TACAN, but no VOR, and transponder with no code capability.

/N - TACAN, but no VOR, and transponder with 64 code capability.
 /P - TACAN, but no VOR, and transponder with 4096 code capability.

Examples:

Written - F25/T, DC6B, DC8/A
 Spoken - F TWENTY-FIVE SLANT TANGO
 DC SIX B SLANT BRAVO
 DC EIGHT SLANT ALFA

NEW ICAO FLIGHT PLAN FORM

A new ICAO flight plan form and related procedures as specified in ICAO Doc. 4444-RAC/501/9 "Rules of the Air and Air Traffic Services", Ninth Edition, 1967, became applicable on a world-wide basis on 8 February, 1968.

This new form and applicable procedures are now used in Canada for international flights originating in, or entering, Canadian airspace. There has been no change in the flight plan format or procedures which apply to domestic flights or trans-border flights between Canada and the United States.

The FIR boundary and estimated times in Item 13 of the form are not required for operations within Canadian controlled airspace.

Supplies of the new ICAO Flight Plan Form (NEW-28-0081) are available at all area control centres.

DEPARTURE PROCEDURES

GENERAL

Pilots shall maintain a listening watch on the appropriate tower frequency while under control of the tower. Whenever possible, requests for radio checks and taxi instructions should be made on the appropriate ground control frequency. After establishing initial contact with the control tower, the pilot will be advised of any frequency changes required.

After communication has been established with the tower, the terms "THIS IS", "OVER", and other similar terms may be omitted, provided such omission does not lead to misunderstanding.

Radio Checks

Radio checks should be requested on the ground control frequency. An indication of readability will be given using the following scale except for pre-flight radio checks the phrase "RADIO CHECKS" may be used to indicate a readability of 4 or 5.

1. Bad
2. Poor
3. Fair
4. Good
5. Excellent

Example:

Pilot: WINNIPEG GROUND, THIS IS JULIETT VICTOR HOTEL, RADIO CHECK,
 ONE TWO ONE DECIMAL NINE.

Ground

Control: JVH THIS IS WINNIPEG GROUND, RADIO CHECKS or READ YOU 4.

Requests for Push-back

Since controllers may not be in a position to see all obstructions which an aircraft may encounter during push-back, clearance for this manoeuvre will not be issued by the tower. Pilots

requesting push-back will be advised to "Push-back at your discretion" and will be given traffic information to the extent possible. Pilots are cautioned that it is their responsibility to ensure that push-back may be accomplished in safety, prior to initiating aircraft movement.

Taxi Clearance

Taxi clearance should be requested on the ground control frequency. If no flight plan has been filed, the pilot should advise the tower as to the nature of the flight, such as "local VFR" or "proceeding VFR to (destination)".

Pilots of aircraft equipped with two-way radio are reminded that if cleared to taxi without restriction to the runway in use, no further clearance is required to cross any runway enroute.

Upon receipt of a normal taxi clearance, a pilot is expected to proceed to, but not onto, the runway he is to use for take-off. If, for any reason, the ground or airport controller requires that a pilot request a further clearance before crossing or entering any of the runways enroute to this taxi clearance limit, this requirement will be reflected in the taxi clearance.

Example:

Pilot: WINNIPEG GROUND, JVH AT HANGAR NO. 3,
REQUEST TAXI CLEARANCE, OVER.

Ground
Control: JVH WINNIPEG GROUND, RUNWAY (number), WIND
(in degrees magnetic and miles per hour), TIME (in
GMT, four-figure group), ALTIMETER (four-figure
group giving the altimeter in inches), CLEARED TO TAXI
(runway or other specific point, route).

NOTE: Time and Altimeter will not normally be issued if the information was issued in preflight radio check. Runway, Wind and Altimeter will not normally be issued if the information is included in current ATIS broadcast and pilot acknowledges receipt of that message.

Common ATC Phraseologies:

ADVISE WHEN READY.
CONTINUE or CONTINUE TAXIING.
HOLD or HOLD ON (runway number, taxi-way) or HOLD
(direction) OF (runway number, taxi-way) or
HOLD SHORT OF (runway number, taxi-way) or
TAXI ON (runway number, taxi-way).
TAXI TO POSITION AND HOLD.
TURN NOW or TURN LEFT or TURN RIGHT.

In order to ensure that no hazard will be created, all flights shall hold at least 100 feet from the edge of the runway in use, unless otherwise authorized by the tower. A specific clearance is required to proceed onto the active runway.

Transponders in close proximity to the radar site are likely to reply to "sidelobes" from the interrogator antenna, causing "clutter" on controllers' radar displays. Therefore, transponders should be adjusted to "standby" while taxiing, and not be switched to "on" (or "normal") until immediately before take-off. If a transponder reply is required by ATC immediately after take-off, the appropriate instructions will be included in the IFR clearance.

Example:

SQUAWK ALFA THREE, CODE TWO ZERO, JUST BEFORE TAKE-OFF.

Take-off Clearance

When ready for take-off the pilot shall request take-off clearance. Upon receipt of take-off clearance, the pilot shall take-off without delay, or inform ATC if unable.

Example:

Pilot: WINNIPEG TOWER JVH READY FOR TAKE-OFF.

Tower: JVH WINNIPEG TOWER (any special information - hazards, obstructions, etc.) CLEARED FOR TAKE-OFF (control instructions - turn after take-off, wind information if required, etc.).

When an aircraft is cleared for take-off on a runway at any controlled airport, the clearance is based on the premise that the full length of the runway will be available unless an intersection take-off has been authorized. A pilot may request and receive clearance for take-off using only a part of the runway. Provided traffic, noise abatement procedures and other conditions permit, the request will be approved but pilots are reminded that they, and not the controller on duty, are responsible for ensuring that the portion of the runway they elect to use will be adequate for the take-off run. Intersection take-offs may be suggested by the controller subject to concurrence by the pilot. In such cases the controller shall specify the remaining usable length of the runway available for the take-off. Pilots are cautioned that light aircraft taking off from intersections behind heavier aircraft which are utilizing the full runway length are apt to encounter, particularly during calm or light wind conditions, severe turbulence in the wake of departing or arriving aircraft.

To expedite movement of airport traffic, pilots planning a static or delay in take-off shall indicate this to the airport controller when requesting take-off clearance. However, if backtracking on the live runway to position for take-off is required, then the pilot shall indicate the delay to the controller prior to entering the live runway.

A controller may not issue a clearance or approve a request for take-off from a pilot which would result in a deviation from established noise abatement procedures.

VFR FLIGHT

Procedures for Aircraft Without Radio

At all times, the pilot should be alert for visual signals which may be given by the tower.

Pilots are required to obtain clearance either by prearrangement or by visual signals before crossing or entering runways, taxiways or any other portion of the airport used for landings and take-offs.

Clearances must be obtained before proceeding any closer than 100 feet from the edge of the runway in use.

A pilot must obtain clearance to taxi back along the runway in use after landing. When an aircraft has been stopped by a red light a further clearance must be received before preceeding.

Take-off clearance by day - When ready for take-off, the aircraft should be taxied to a position at least 100 feet from the edge of the runway in use and positioned so as to permit the pilot to observe a visual signal from the tower. When an area other than a runway is being used for take-off, the pilot may attract the attention of the controller by turning the aircraft toward the tower.

By night - During the hours of darkness, a pilot wishing to attract the attention of the airport controller, should turn on a landing light with the aircraft positioned so that appropriate signals may be received from the tower.

Acknowledgement of Visual Signals - A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals as follows:

- (a) On the airport; full movement of rudder or ailerons, whichever can be most readily seen from the tower, (such movement should be repeated at least 3 times in succession) or taxiing the aircraft in the authorized direction.
- (b) At night; by a single flash of a landing light.

Procedures for Aircraft Equipped with Receiver Only

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only, except that an airport controller may request the pilot to acknowledge a transmission in a specific manner. After the initial acknowledgement no further acknowledgment, other than compliance with clearances and instructions, is necessary, unless otherwise requested by the controller.

Visual Signals

Authorized visual signals used by the tower and their meaning are as follows:

To aircraft on the ground:

1. A SERIES OF GREEN FLASHES - Cleared to taxi.
2. STEADY GREEN LIGHT - Cleared for take-off.
3. SERIES OF RED FLASHES - Taxi clear of landing area in use.
4. STEADY RED LIGHT - Stop.
5. FLASHING WHITE LIGHT - Return to starting point on the airport.

To all aircraft:

When the rotating beacon is lighted by day, this shall indicate that the weather within the control zone is below VFR limits.

Release from Tower Frequency

Pilots may request clearance from tower frequency or to another agency or service as appropriate.

Example:

Pilot: WINNIPEG TOWER, JVH REQUEST CLEARANCE
(from tower frequency, to company, to a specific frequency).

Tower: JVH, WINNIPEG TOWER, CLEARED (from tower frequency, to company, to a specific frequency)
NOW or AT (time) or OVER (location).

VFR flights will not be released from tower frequency while operating within the control zone.

IFR FLIGHT

Initial Contact

On initial contact with ground control, the pilot of an IFR aircraft should state the intended altitude of the flight.

IFR Clearance

An IFR clearance will normally be given after a flight has received taxi clearance. However, due to high fuel consumption during ground running time, some jet pilots may wish to obtain their IFR and taxi clearance prior to starting engines. Pilots using this procedure shall call the tower using a phrase such as "READY TO START NOW" or "READY TO START AT (time)". Normally such time should not be greater than 5 minutes prior to engine start. If a delay is anticipated, the pilot will be advised to contact "clearance delivery" on a specific frequency for his IFR clearance.

Example:

Tower: J VH WINNIPEG GROUND/CLEARANCE DELIVERY
IFR CLEARANCE (controller will wait for the pilot
to indicate that he is ready to copy)
ATC CLEARS, -----.

At certain airports an IFR departure clearance may include a coded departure routing known as a STANDARD INSTRUMENT DEPARTURE (SID). SIDs have been established at Montreal, Toronto, Ottawa and Vancouver International Airports and are published as a supplement to the Radio Navigation Charts. It is expected that SIDs will be instituted at other high density airports in the future.

Pilots of air carrier or military aircraft operating at airports for which SIDs have been published will be issued SID clearances by ATC whenever considered appropriate. Pilots of other aircraft will not be issued SID clearances unless requested by the pilot. No pilot is required to accept an abbreviated SID clearance. If any doubt exists as to the meaning of such clearance, the pilot should request a detailed clearance.

The clearance received by a pilot must be "read-back" to the controller except that the traffic information inserted at the end of the clearance may be acknowledged by the phrase "TRAFFIC RECEIVED". Read-back of the SID portion of a clearance should consist of repeating the detailed SID route as published. If the clearance "read-back" is incorrect, the pilot will be so advised and the correct data retransmitted to the pilot. These corrections must also be repeated by the pilot to ensure that they have been correctly received.

A controller may not issue a clearance or approve a request for take-off from a pilot which would result in a deviation from established noise abatement procedures.

A departing IFR aircraft, at radar equipped locations, is radar identified as soon as practicable and vectored so as to avoid conflicting traffic to allow climb to cruising altitude with the least possible delay.

At the pilot's request, ATC may issue a clearance to a departing IFR flight authorizing a portion of the flight to be made in accordance with VFR. The clearance will specify a time, altitude or location to which VFR must be maintained, and will include alternate instructions in the event VFR flight becomes impracticable.

Release from Tower Frequency

IFR Flights - Control Zones within Terminal Control Areas:

After take-off and when clear of conflicting airport traffic, an IFR flight will be cleared by the airport controller to contact a specific control unit on a specified frequency at a specified time or location. At certain locations flights will be advised to change to a specific departure frequency prior to take-off.

IFR Flights - Control Zones outside Terminal Control Areas:

When requesting release from tower frequency, the pilot shall advise the tower of the agency or the frequency to which he will change if such information has not been specified in the ATC clearance prior to departure.

ENROUTE PROCEDURES

VFR FLIGHT

Position Reports

VFR flights are not required to file position reports; however, they should file these reports whenever possible for their own protection. In order to minimize frequency congestion on direct centre pilot communications (DCPC) frequencies, pilots of VFR aircraft are urged to make routine position reports to the nearest DOT aeradio station. Such reports are recorded by the radio operator and, although not normally forwarded to ATC are immediately available in the event of search and

rescue action. VFR position reports should be given in the following general format:

"OTTAWA RADIO, THIS IS INDIA GOLF BRAVO, VFR FLIGHT
PLAN, OVER OTTAWA AT ONE ONE FIVE EIGHT, ESTIMATING
KILLALOE ONE TWO THREE FOUR, OVER".

Controlled VFR Flights

Regulations governing flights within the Block Airspace are contained in Air Navigation Order, Series V, No. 15 entitled the "Block Airspace Order".

These regulations, developed in the interest of increased air safety, allow VFR pilots with special qualifications to be provided with IFR separation by Air Traffic Control. Controlled VFR flights must be conducted in accordance with procedures designed for use by IFR flights, except that when IFR weather conditions are encountered the pilot of a Controlled VFR flight must avoid such weather conditions.

It may not be possible for Air Traffic Control to issue a clearance for a controlled VFR flight to operate at the requested altitude at the time a pilot desires it. This may be due to the density of air traffic within the control area at the time which prevents the acceptance of any additional aircraft in the Block Airspace. In such cases, a later request, or a request for a different altitude, may be approved.

The Block Airspace consists of that airspace on airways extending from 9,500 ASL east of 114° W and 12,500 ASL west of 114° W to Flight Level 230. Since the 114th west meridian divides Blue Airway No. 14 and portions of Amber Airway No. 2, the Block Airspace on all of Blue 14 and that portion of Amber 2 between Third Lake Intersection and fifteen miles northwest of Edmonton has a base of 9,500 ASL. In order that the characteristics of the controlled airspace associated with the Victor Airway 301 section between Calgary and Edmonton and the alternate Victor 301 West may be compatible, the lower limit of the "Block Airspace" on Victor 301 West has been designated as 9,500 ASL.

ATC clearances for Controlled VFR flight will not normally be issued prior to take-off, but rather upon receipt of a position report filed by the pilot upon reaching the last 1,000 foot altitude below the base of the Block Airspace (8,500 or 11,500) with a request for a clearance. The clearance shall be read back by the pilot to ensure accuracy. This procedure is intended to ensure that the radio equipment is operating and to remind pilots that during climb to the Block Airspace, ATC separation is not being provided, and they must maintain a vigilant watch for other traffic. The ATC clearance will contain the phrase:

MAINTAIN (altitude) VFR.

Pilots planning Controlled VFR flight within the Block Airspace are warned not to expect the provision of this service on those airways which are controlled by U. S. ARTC Centres.

IFR FLIGHT

Position Reports

Pilots of IFR and controlled VFR flights are required to make position reports over compulsory reporting points listed in the "Designated Airspace Handbook" and in addition, over reporting points specified by an ATC unit.

Enroute IFR and controlled VFR flights should establish direct controller-pilot communications (DCPC) wherever possible. Peripheral (PAL) transmitter-receiver sites have been established at a number of locations to extend the communication coverage. Whenever DCPC communication cannot be established, pilots should make position reports to ATC through the nearest communications agency along the route of flight.

IFR flights being provided with radar service may be authorized by ATC to discontinue position reports over compulsory reporting points, while in an area of radar coverage. Pilots will be informed when to resume normal position reporting.

In order that flight information and alerting service may be provided to all IFR flights outside controlled airspace, pilots should make position reports over all navigation aids along the route of flight to the nearest station having air/ground communications capability.

Altitude Reports

Pilots shall report reaching the altitude to which the flight has been initially cleared; and, when climbing or descending enroute, shall report leaving a previously assigned altitude and when reaching the assigned altitude.

On initial contact with ATC or when changing from one ATC frequency to another, pilots are requested to state the assigned cruising altitude and when applicable, the altitude through which the aircraft is climbing or descending.

Example:

EDMONTON CENTRE AIR CANADA 801 EIGHT THOUSAND CLIMBING TO
MAINTAIN FLIGHT LEVEL 350.

VFR Climb and Descent

Air traffic control will not clear aircraft in IFR flight to climb or descend in accordance with the visual flight rules unless the pilot makes a specific request to be permitted to do so. VFR climb or descent will not be authorized for flights within the Block Airspace or within controlled airspace between FL 230 and FL 450.

Pilots are reminded however, that in making such requests they are accepting responsibility for ensuring that adequate separation between their own and all other aircraft will be maintained during the climb or descent since Air Traffic Control cannot guarantee separation under these circumstances.

Cruising Altitudes

Use of Flight Level 180 - Flight Level 180 may be used only when assigned by ATC.

Since less than 1000 feet vertical separation may exist between an aircraft flying at 17,000 feet ASL on an altimeter setting and an aircraft flying at flight level 180 or higher, when the altimeter setting is below 29.92 inches, the lowest usable flight level will be assigned or approved in accordance with the following table.

<u>Altimeter Setting</u>	<u>Lowest Usable Flight Level</u>
29.92 or higher	180
29.91 to 28.92	190
28.91 to 27.92	200
27.91 or lower	210

However, flight level 180 may be assigned when the altimeter setting is below 29.92 but not below 28.92, provided that when vertical separation is being provided between the aircraft at flight level 180 and an aircraft operating on an altimeter setting, the latter aircraft shall not be assigned, or given approval to operate at, an altitude above 16,000 ASL.

"1000 Feet on Top" Flight - At the request of a pilot, at least "1000 feet on top" flights may be authorized by ATC. The altitude being maintained must be appropriate for the direction of flight and must be at least one thousand feet above all cloud, haze, smoke or other formations. ATC may not authorize such flights in the Block Airspace or the controlled airspace between FL 230 and FL 450. It is the pilot's responsibility to maintain adequate separation between his own and all other aircraft.

Clearance Limit

The clearance limit as specified in an ATC clearance is the point to which an aircraft is cleared. Further clearance is delivered to a flight prior to arrival at the clearance limit,

however, occasions may arise when this may not be possible. In the event further clearance is not received the pilot is expected to hold at the clearance limit, maintaining the last assigned altitude, and to request further clearance. He is not to proceed beyond this clearance limit, as the altitude maintained may be occupied beyond this point. For example, if a flight approaches a fix on a track of 90 degrees, holding should be accomplished at the fix on an inbound track of 90 degrees.

Responsibility rests with the pilot to determine whether or not a clearance received by him can be complied with in the event of a communication failure. Where circumstance require, a clearance may be refused but such refusal should specify acceptable alternatives.

CONTROL ABOVE FLIGHT LEVEL 230

Canadian controlled airspace above flight level 230 is divided into two areas known as the "Northern Control Area" and the "Southern Control Area". These areas are defined in the Designated Airspace Handbook.

Within these areas lateral separation is provided by ATC in the form of "airspace to be protected" with relation to an approved track. Therefore, it is the pilot's responsibility to remain on the approved track in order to be assured of adequate lateral separation from other traffic. Normally, the airspace to be protected is predicated on the premise that change-over from one navigation reference to another will take place approximately midway between facilities.

Clearances to turbo-jet aircraft equipped with a Mach meter system may include an appropriate Mach number. The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero decimal zero one (0.01) and ATC approval obtained by the pilot before making any change. If an immediate temporary change in Mach number is necessary (e.g. due to turbulence), ATC must be notified as soon as possible of such change. When a Mach number has been included in a clearance, the flight concerned should transmit its current Mach number with each position report.

Pilots are reminded of the following rules which apply in the Northern and Southern Control Areas :

- (a) All flights operating at and below FL 450 must be conducted in accordance with the Instrument Flight Rules and, therefore, require an ATC clearance.
- (b) "1000-on-top" flight is not permitted at or below FL 450.
- (c) Altimeters must be set to Standard Pressure (29.92 inches of mercury of 1013.2 mbs.).

Northern Control Area

ATC will assign altitudes in accordance with the following table:

<u>True Track</u>	<u>Flight Levels</u>
Between 000° and 179° inclusive	250, 290, 330, 370, 410, 450, etc.
Between 180° and 359° inclusive	270, 310, 350, 390, 430, 470, etc.

Position Reports

Flights operating on approved tracks formed by navigation aids which are more than 500 nautical miles apart should make position reports at fixed lines in accordance with the following:

- (a) Flights whose track is predominantly North or South, (315° true clockwise through 045° true or the reciprocals) shall report over fixed reporting lines coincident with each 5° of latitude north or south of and including 60° North latitude;
- (b) Flights whose true track is predominantly East or West, (046° true through 134° true or the reciprocals) shall report over fixed reporting lines coincident with each 10 degree meridian east and west of and including 100° west longitude, except that where 20 degrees of longitude will be traversed in less than 60 minutes the

flight may report over such reporting lines spaced at 20 degree intervals.

- (c) In forwarding a position report the "position" will be expressed by the latitude and longitude at which the reporting line is crossed. For North or Southbound flights, the latitude should be expressed in degrees only, and longitude in degrees and minutes. For East or Westbound flights, the longitude should be expressed in degrees only and the latitude in degrees and minutes. These reports should be made direct to ATC units using peripheral communications where available. If not possible, such reports will be made to Goose Bay, Churchill, Winnipeg or Edmonton Aeradio Stations as appropriate, using the published frequencies. If radio contact cannot be established or maintained with any of the above-mentioned stations, position reports will be made to the nearest military unit, or to the nearest DOT Aeradio Station, on the appropriate HF or VHF frequency.
- (d) Westbound aircraft from the Sondrestrom FIR entering that portion of the NCA contained within the Edmonton FIR are to establish communication with Frobisher or, alternately, Churchill, Edmonton or Winnipeg; and, westbound aircraft from the Moncton FIR entering that portion of the NCA contained within the Winnipeg FIR are to establish communication with Churchill or Winnipeg, on International HF air/ground frequencies as soon as possible.

HOLDING PROCEDURES

IFR FLIGHT

General

Standardization of aircraft entry and holding manoeuvres is essential for the efficient and economical use of airspace in the control of air traffic.

Holding patterns which now appear on Canadian Air Pilot instrument approach charts are published as a guide only, to enable pilots to anticipate normal holding instructions.

A holding clearance issued by ATC will include at least the following information:

- (a) Clearance to the holding fix.
- (b) Direction to hold from the holding fix.
- (c) On specified, radial, course, inbound track.
- (d) If DME is used, the DME distances at which the fix end and outbound end turns are to be commenced. (e.g., "Hold between (number of miles) and (number of miles).").
- (e) Time to expect further clearance, time to expect approach clearance, or time to leave the fix in the event of communications failure.

During entry and holding, all turns are to be made so as to achieve an average bank angle of at least 25°, or a rate of 3° per second, whichever requires the lesser bank.

Unless the clearance issued by ATC contains instructions to the contrary, all turns after initial entry into the holding pattern shall be made to the right.

Occasionally, a pilot may reach a clearance limit before obtaining further clearance from ATC. In this event, the pilot is expected to hold in a standard pattern on his inbound track to such clearance limit and request further clearance. He is not to proceed beyond the clearance limit as the altitude maintained may be occupied beyond this point.

Example 1:

A westbound flight on Green 1, cleared to Casselman (NX) NDB reaches Casselman before obtaining further clearance. The pilot is expected to hold at NX on an inbound track of 280° until receiving further clearance.

Example 2:

The published missed approach procedure for an ILS RWY 24 approach at Halifax is:
"Climb to 2100 feet on track of 238° to GOLF NDB."

A pilot missing an ILS approach to RWY 24, and not in receipt of further clearance is expected to proceed directly to the GOLF NDB, make a right turn and hold at the GOLF beacon on an inbound track of 238°, one minute pattern at 2100 feet until obtaining further clearance.

If for any reason a pilot is unable to conform to these procedures, he should advise ATC as early as possible.

Procedures covering communications failure are contained in ANO, Series V, No. 5.

Entry Procedures

The entry into a holding pattern shall be made according to the aircraft's heading in relation to the three sectors shown in Figure 1, recognizing a zone of flexibility of 5° on either side of the sector boundaries. For holding on VOR intersections or VOR-DME/TACAN fixes, entries will be limited to the radials or DME arcs forming the fix, as appropriate.

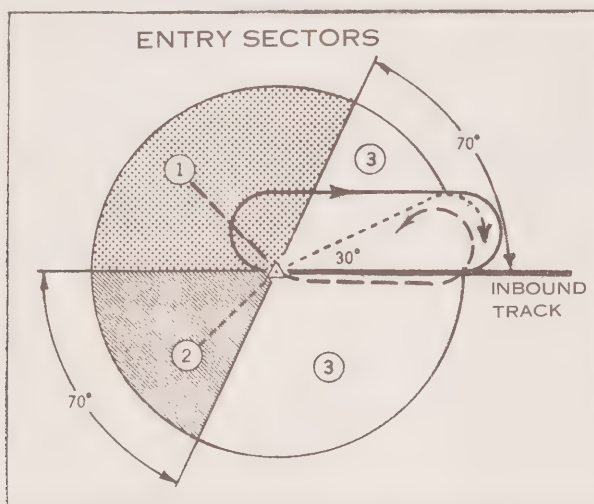


FIGURE 1

Sector 1 Procedures (Parallel entry) -

- (a) Upon reaching the fix, turn onto an outbound heading for the appropriate period of time. (See Section 5 - Timing.)
- (b) Turn left to intercept the inbound track.
- (c) On second arrival over the fix, turn right and follow the holding pattern.

Sector 2 Procedure (Offset entry) -

- (a) Upon reaching the fix, turn to a heading which will make good a track having an angle of 30° or less from the inbound track on the holding side.
- (b) Continue for the appropriate period of time, then turn right to intercept the inbound track and follow the holding pattern.

Sector 3 Procedure (Direct entry) - Upon reaching the fix, turn right and follow the holding pattern.

The still air time for flying the outbound entry heading should not exceed one minute if at or below 14,000 feet ASL, or 1½ minutes if above 14,000 feet ASL. Entry timing is to begin over or abeam the fix.

Standard Holding Pattern

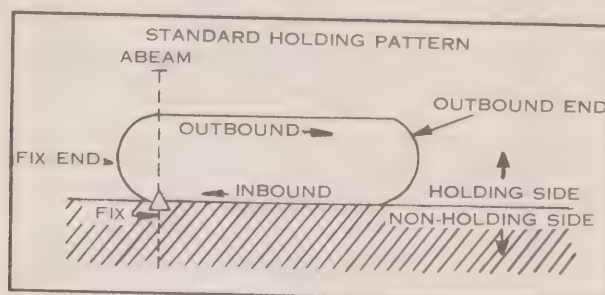


FIGURE 2

A standard holding pattern is depicted above and described below in terms of still air conditions.

- (a) Having entered the holding pattern, on the second and subsequent arrivals over the fix, execute a right turn to fly an outbound track which will most appropriately position the aircraft for the turn onto the inbound track.
- (b) Continue outbound for one minute if at or below 14,000 feet ASL or for 1½ minutes if above 14,000 feet ASL.

NOTE: Distance will be specified by ATC instead of time where a DME fix is to be used for holding.

- (c) Turn right so as to realign the aircraft on the inbound track.

When holding at a VOR, pilots should begin the turn to the outbound leg at the time of the complete reversal of the TO-FROM indicator.

Non-Standard Holding Pattern

A non-standard pattern requires that:

- (a) Fix end and outbound end turns be made to the left, and/or
- (b) Time along the outbound track be other than the 1-minute or 1½-minute leg appropriate for altitude being flown.

Entry procedures to a non-standard pattern requiring left turns are oriented in relation to the 70° line on the holding side, just as in the standard pattern. Refer to Figure 3.

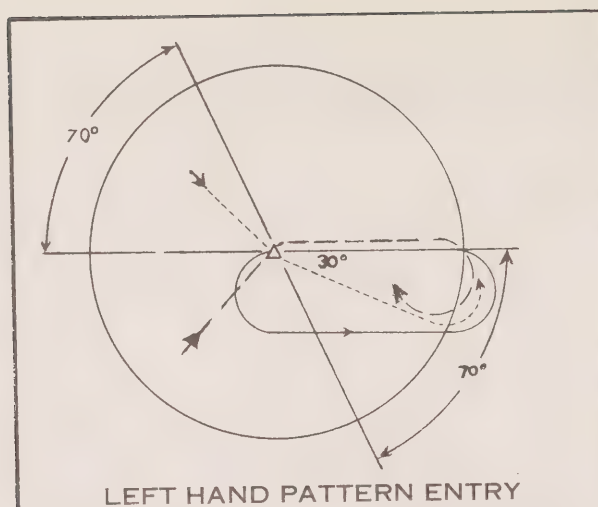


FIGURE 3

Timing

The still air time for flying the outbound leg of a holding pattern should not exceed one minute if at or below 14,000 feet, or $1\frac{1}{2}$ minutes if above 14,000 feet ASL. However, due allowance should be made in both heading and timing to compensate for the effects of known wind, except when turning.

Entry timing should begin when over or abeam the fix. The initial outbound heading should be flown for 1 or $1\frac{1}{2}$ minutes (appropriate to altitude). If it is known that a headwind will exist when outbound, timing may be increased by not more than 30 seconds when holding above 130K IAS, or by not more than one minute when holding at 130K IAS or below.

After initial circuit of the pattern, timing should begin from abeam the fix or on attaining the outbound heading, whichever occurs later. Outbound times should be increased or decreased, in recognition of wind conditions, to effect 1 minute or $1\frac{1}{2}$ minutes (appropriate to altitude) inbound to the fix.

When ATC clearance is received specifying the time to depart the holding pattern, the pilot should adjust his flight pattern within the limits of the established holding pattern in order to leave the fix as close as possible to the time specified.

Speed Limitations

Holding patterns must be entered and flown at or below the following airspeeds:

- | | | |
|-----|--|----------|
| (a) | propeller-driven aircraft | 175K IAS |
| (b) | turbo-jet aircraft | |
| | (i) Up to 6000 feet, inclusive | 200K IAS |
| | (ii) Above 6000 feet to 14,000 feet, inclusive | 210K IAS |
| | (iii) Above 14,000 feet | 230K IAS |
| (c) | turbo-prop aircraft may operate at normal climb IAS while climbing in a holding pattern and turbo-jet aircraft may operate at 310K IAS or less, while climbing in a holding pattern. | |

Pilots are to advise ATC immediately if airspeeds in excess of those specified above become necessary for any reason, including turbulence, or if unable to accomplish any part of the holding procedure. After such higher speed is no longer necessary, the aircraft should be operated at or below the specified airspeeds, and ATC notified.

NOTE: Airspace protection for turbulent air holding is based on a maximum of 280 K IAS or Mach .8, whichever is lower. Considerable impact on the flow of air traffic may result when aircraft hold at speeds which are higher than those specified above.

After departing a holding fix, pilots should resume normal speed subject to other requirements, such as speed limitations in the vicinity of controlled airports, specific ATC requests, etc.

DME Procedures

DME holding is subject to the same entry and holding procedures previously described except that distances, in nautical miles are used in lieu of time values.

In describing the direction from the fix on which to hold and the limits of a DME holding pattern, an ATC clearance will specify the DME distance from the navigation aid at which the inbound and outbound legs are to be terminated. The end of each leg is determined by the DME indication.

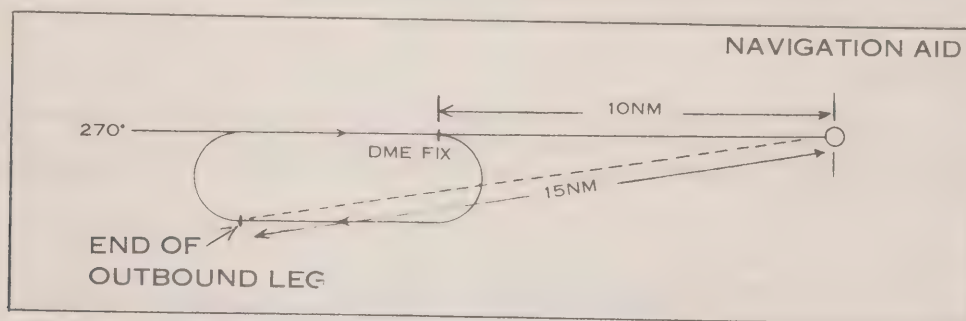


FIGURE 4

Example - An aircraft cleared to the 270 RADIAL 10 MILE DME FIX, to HOLD BETWEEN 10 AND 15 MILES, will hold inbound on the 270° radial, commence turn to the outbound leg when the DME indicates 10 NM and commence turn to inbound leg when the DME indicates 15 NM.

ARRIVAL PROCEDURES

VFR FLIGHT

Initial Contact

Prior to entering a control zone, the pilot shall select the appropriate tower frequency and call the tower, giving his identification, position (distance in miles and direction from the airport or by reference to a geographical fix), and request landing instructions.

Initial Clearance

On initial contact with the tower, the airport controller will advise the pilot regarding the runway to use, wind direction and speed, altimeter setting and any other pertinent information. The airport controller will clear the flight to the traffic circuit; however, under certain weather and/or traffic conditions, the flight may be cleared to a specific location, directly to base leg, or for a straight-in approach.

Example:

Pilot: VICTORIA TOWER THIS IS ROMEO MIKE GOLF, OVER.

NOTE: Pilots are requested to use the phonetic alphabet for aircraft identification on initial contact.

Tower: RMG, THIS IS VICTORIA TOWER, OVER.

Pilot: VICTORIA TOWER RMG, OVER ACTIVE PASS, REQUEST LANDING INSTRUCTIONS.

Tower: RMG, VICTORIA TOWER, RUNWAY (number) WIND (direction in degrees magnetic in miles per hour) ALTIMETER (four-figure group in inches) CLEARED TO (circuit, straight-in approach, left base, right base or a specific point) (any obstruction, traffic or other pertinent information) OVER.

Pilot: RMG.

Common ATC Phraseologies:

CLEARED TO THE CIRCUIT.
CLEARED RIGHT-HAND APPROACH RUNWAY (number).
CLEARED STRAIGHT-IN APPROACH.

A straight-in approach is an approach wherein the traffic circuit is entered on the final leg without having executed any other portion of the circuit.

Approach Clearance

Unless cleared for a straight-in approach, the pilot should request further clearance upon reaching his initial clearance limit. A clearance to the circuit indicates that the pilot should join the Traffic Circuit on the downwind leg. Pilots of NORDO and RONLY aircraft should join the circuit on the upwind leg.

Example:

Pilot: VICTORIA TOWER RMG DOWNWIND, REQUEST FURTHER CLEARANCE.

Tower: RMG (any approach instructions including position, type and colour, if significant, of aircraft to follow, if not number one on approach).

Pilot: RMG

Common ATC Phraseologies:

FOLLOW (aircraft type) NOW ON BASE LEG.
EXTEND DOWNWIND.
WIDEN APPROACH.

Traffic Circuit

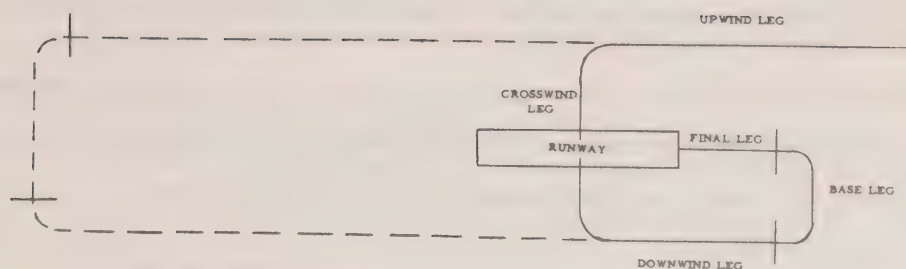
The Air Regulations (para 516) require that aircraft approaching an airport for a landing make all turns to the left unless otherwise directed by ATC or through Notices to Airmen.

The pilot of an aircraft approaching an airport shall make a left-hand circuit, unless a right hand circuit is established for a particular runway, conforming as closely as possible to the altitude (normally 1000 feet above terrain), speed and size of the circuit being made by other traffic.

Entry to the circuit shall be made in such a manner so as to avoid "cutting off" other aircraft. At this time, the pilot shall note the location of the control tower, the wind direction, the direction of landing and the taxi pattern to be followed to clear the runway after landing. The pilot, while within the circuit, shall maintain such separation from the aircraft ahead that a landing can be made without overtaking it. Flights which are not in communication with the tower shall, at all times, be on the alert for visual signals.

The crosswind leg of the circuit should be executed in such a manner that the aircraft will cross over the active runway approximately midway; or, at a sufficient distance away from the field to avoid conflicting with high performance departing aircraft.

DIAGRAM - STANDARD TRAFFIC CIRCUIT



Landing Clearance

A pilot must obtain landing clearance prior to landing. Normally the airport controller will initiate landing clearance without having first received the request from the aircraft; however, should this not occur, the onus remains with the pilot to request such clearance in sufficient time to accommodate the operating characteristics of the aircraft being flown. NORDO and RONLY aircraft shall be considered as intending to land when they join and conform to the traffic circuit. Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit.

Example:

Pilot: VICTORIA TOWER RMG LANDING CLEARANCE.

Tower: RMG VICTORIA TOWER CLEARED TO LAND. (If aircraft is equipped with retractable landing gear) CHECK GEAR DOWN.

Pilot: RMG.

NOTE: Pilots are cautioned that the phrase "check gear down" is used by air traffic controllers at the request of pilot organizations as a reminder only to a pilot that he should "check whether or not the landing gear is down and locked". It is not, under any circumstances, to be construed by pilots as meaning that the controller has observed and is confirming that the gear is actually down.

When an aircraft is on final approach and it appears that the runway may not be clear for landing, the pilot will be advised to "CONTINUE APPROACH, POSSIBLE PULL-UP". When a "pull-up" is necessary (before or after landing clearance has been issued) the pilot shall abandon his approach and make another circuit.

Example:

PULL-UP AND GO AROUND, TRAFFIC STILL ON RUNWAY.

Common ATC Phraseologies:

CAUTION, POSSIBLE TURBULENCE FROM LANDING (aircraft type and position).

MAKE LEFT/RIGHT 360.

MAKE FULL-STOP LANDING.

CONTACT TOWER/GROUND ON (frequency) AFTER LANDING/WHEN CLEAR OF RUNWAY/NOW.

Taxiing

After landing, aircraft shall clear the runway without delay by continuing forward to the nearest available taxi strip or turn-off point, unless otherwise instructed by air traffic control. When required, instructions for clearing the runway will be given as follows:

Example:

Tower: IGB (instructions for clearing runway) CONTACT GROUND CONTROL
(specific frequency) NOW or AT (specific location).

Towers will normally provide the aircraft down time, only, when requested by the pilot.

Normally, aircraft will not be changed to ground control until clear of the active runway.

When clear of the runway in use, taxi clearance will be given as follows:

Example:

Tower: IGB CLEARED TO (ramp, gate or parking area) (any special instructions such as routing, traffic, cautionary or warning regarding construction or repair on the manoeuvring area).

Speed Limitation at Controlled Airports

In order to reduce collision hazard in the vicinity of controlled airports it is considered advisable to operate aircraft at reduced airspeeds. When below 3,000 feet above ground and within 10 miles of the centre of a controlled airport, aircraft should be operated at an airspeed of 160 knots or less. For those aircraft which are unable to safely manoeuvre at this speed, it is recommended that they be operated at the minimum speed which permits safe control of the aircraft for the necessary flight manoeuvre.

Procedures for Aircraft Without Radio

At all times, the pilot should be on the alert for visual signals which may be given by the tower.

Traffic Circuit - The pilot shall join the traffic circuit on the upwind leg without obtaining any visual signal, care being taken not to "cut off" other aircraft. While within the circuit the pilot shall conform to the speed and size of the circuit maintaining such separation from the aircraft ahead so that a landing can be made without overtaking it. The pilot shall also have observed the wind direction, the direction for landing and the taxi pattern to be followed to clear the runway after landing.

Final Approach - Before turning on final approach, a pilot shall check for any aircraft on a straight-in approach.

Landing Clearance - Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit. (Note - Landing clearance may be withheld by the tower when there are preceding aircraft which have not landed or if the runway is not clear.)

Taxiing - No taxi clearance is required after landing, except to cross the runway in use, or to taxi back to a turn-off strip. When an aircraft's landing run carries it past the last available turn-off point, it shall proceed to the end of the runway and be taxied to one side, waiting there until clearance is received to taxi back to the nearest turn-off point.

Procedures for Aircraft Equipped with Receiver Only

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only except that an airport controller may request the pilot to acknowledge a transmission in a specified manner. After the initial acknowledgement no further acknowledgement other than compliance with clearances and instructions is necessary, unless otherwise requested by the controller.

Visual Signals

Authorized visual signals used by the tower and their meanings are as follows:

To aircraft in flight:

1. STEADY GREEN LIGHT - Cleared to land.
2. STEADY RED LIGHT - Give way to other aircraft and continue circling.
3. A SERIES OF GREEN FLASHES - Return for landing. (Note: This shall be followed at the proper time by a steady green light.)
4. A SERIES OF RED FLASHES - Airport unsafe; do not land.
5. THE FIRING OF A RED PYROTECHNICAL LIGHT - Whether by day or night and notwithstanding previous instructions, means do not land for the time being.

Acknowledgement of Visual Signals - A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals. Signals may be acknowledged as follows:

- (a) Distinct rocking of aircraft in flight.
- (b) At night, by a single flash of a landing light.

IFR FLIGHT

Initial Contact with Towers

Pilots shall establish communication with the control tower as follows:

- (i) if in direct communication with an area control centre or a terminal control unit, the pilot will be advised by the IFR controller when he is to contact the tower, or
- (ii) if the conditions in (i) above are not applicable, pilots shall establish communication with the tower when approximately 25 miles from the airport and shall remain on tower frequency.

Speed Adjustment - Radar-controlled Aircraft

For reasons given below, it is sometimes necessary to request speed and adjustments, however, while ATC will take every precaution not to request speeds beyond the capability of the aircraft, it is the pilot's responsibility to ensure that he does not operate his aircraft at a speed below the safe minimum manoeuvring speed. If an ATC unit should request a speed reduction below the aircraft's safe manoeuvring speed, the pilot should inform ATC that he is unable to comply.

To avoid excessive vectoring when establishing an arrival sequence, controllers may request pilots of radar-controlled aircraft entering or about to enter the destination terminal area to adjust aircraft speed.

Speed adjustment requests will be expressed in units of ten knots or multiple of ten knots based on indicated airspeed (IAS). Pilots complying with speed adjustment requests are expected to maintain a speed within plus or minus ten knots of the specified speed.

Pilots of multi-engine aircraft may be requested to do one of the following:

- (a) Maintain present speed.
- (b) Increase speed to a specified speed or by a specified amount.

- (c) Reduce speed to a specified speed or by a specified amount.

Unless prior concurrence in the use of a lower speed is obtained from the pilot, the following minimum speeds will be applied to multi-engined aircraft:

- (a) For multi-engined turbojet and propeller-driven aircraft operating 30 miles or more from destination airport: -
Not less than 250 knots IAS.
- (b) For multi-engined turbojet and propeller-driven aircraft operating 20 to 30 miles from destination airport, and
- (i) at or above 10,000 feet ASL: - Not less than 250 knots IAS.
- (ii) below 10,000 feet ASL: - Not less than 200 knots IAS.
- (c) For multi-engined turbojet aircraft operating less than 20 miles from destination airport: - Not less than 180 knots IAS.
- (d) For multi-engined propeller-driven aircraft operating less than 20 miles from destination airport: - Not less than 150 knots IAS.

Pilots of single-engined aircraft, or those of multi-engined aircraft, which cannot attain speeds as high as the minimum speeds specified above, may be requested to, if practicable, do one of the following:

- (a) Maintain a specified speed equivalent to that of a preceding or succeeding aircraft; or
- (b) Increase or decrease speed by a specified amount.

When application of speed adjustment procedures is no longer necessary, the pilot concerned will be advised to resume normal speed except when an approach clearance is issued. Approach clearances supersede speed adjustment assignments and pilots are expected to make their own speed adjustments, as necessary, to complete the approach.

Speed Adjustment - Non radar-controlled Aircraft

In order to reduce collision hazard in the vicinity of controlled airports it is considered advisable, unless otherwise authorized by ATC, to operate non-radar controlled aircraft at reduced speeds. When below 3,000 feet above ground and within 10 miles of the centre of a controlled airport, aircraft should be operated at an airspeed of 160 knots or less. For those aircraft which are unable to safely manoeuvre at this speed, it is recommended that they be operated at the minimum speed which permits safe control of the aircraft for the necessary flight manoeuvre.

Advance Notice of Alternate Airport - Jet Aircraft

Missed approaches by jet aircraft can be handled more efficiently if the controller knows of the pilot's intentions in advance. He can use the extra time to plan for the possibility of a climb-out and thus provide better service in the event of an actual missed approach.

Pilots of jet aircraft are encouraged to adopt the following procedure as the occasion arises:

On receipt of approach clearance, when the ceiling and visibility reported at the destination airport are less than 100 feet or one mile above the minima published for the type of approach to be executed, the pilot should advise the controller as follows:

"In the event of missed approach request (altitude or flight level) via (route) to (airport).

It is recognized that implementation of this procedure will increase communications, but this can be minimized if pilots will employ it only when there is a reasonable chance that

a missed approach may occur.

Approach Clearance

Pilots will be advised of the ceiling, visibility, wind, runway, altimeter setting and approach aid being used immediately prior to descent when direct IFR controller-pilot communications (DCPC) are employed.

When an approach clearance is issued the name of the approach as published will be used to designate the type of approach.

Example:

CLEARED TO THE TORONTO AIRPORT ILS RUNWAY 05 LEFT APPROACH.
CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH.

The runway on which the aircraft is to land will be included in the approach clearance when a landing is to be made on a runway other than aligned with the instrument approach aid being used.

Example:

CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH,
CIRCLING PROCEDURE FOR RUNWAY 32.

Terminal Radar Service

Radar separation is applied to arriving aircraft in order to establish and maintain the most desirable arrival sequence to avoid unnecessary "stacking". In the approach phase, radar vectoring is carried out to establish the aircraft on an approach aid. Aircraft are vectored so as to intercept the final approach course approximately 2 miles from the point at which final descent will begin. In the case of a precision radar approach, the aircraft is vectored by surveillance radar to a predetermined position, at which point control is transferred to the precision radar controller for the "talk-down".

Examples:

JWC, ARRIVAL, 3 MILES FROM THE OUTER MARKER. TURN LEFT HEADING 170
TO INTERCEPT FINAL APPROACH COURSE. CLEARED TO THE TORONTO AIRPORT
FOR STRAIGHT-IN ILS RUNWAY 14 APPROACH.

or, for radar approach -

JWC, ARRIVAL, TURN LEFT HEADING 170 FOR FINAL APPROACH. 8 MILES FROM
THE AIRPORT. CLEARED TO THE TORONTO AIRPORT FOR A PRECISION RADAR
APPROACH, RUNWAY 14.

Straight-in Approaches

ATC uses the term "straight-in approach" to indicate: An instrument approach wherein final approach is begun without first having executed a procedure turn.

Precision Approach Radar Monitoring of ILS Approaches

PAR monitoring of ILS front or back course approaches will be provided at locations served by precision approach radar whenever the ceiling is reported at or below 500 feet, the visibility is reported at or below one mile, or when requested by the pilot.

Monitoring will begin when the aircraft passes the final approach fix or when the aircraft is four nautical miles from the end of the runway, whichever point is further from the runway. At this point the pilot will be requested to report when he has the runway in sight.

Advisory information will normally be transmitted on the localizer "voice" feature. When the localizer voice feature is not available, the primary "Precision" frequency will be used.

When approach clearance is issued, the pilot will be informed of the frequency on which the monitoring information will be transmitted.

Examples:

FOR RADAR MONITORING, LISTEN ON LOCALIZER VOICE, CONTACT MONTREAL TOWER ON 119 DECIMAL 1 NOW.

FOR RADAR MONITORING, CONTACT MONTREAL PRECISION ON 118 DECIMAL 0 NOW.

If monitoring cannot be provided, the pilot will be informed.

Example:

RADAR MONITORING NOT AVAILABLE.

When an approach is monitored, the following information will be provided:

- (a) Distance from "touchdown" point, at each one nautical mile interval from touchdown.
- (b) Notice that the aircraft has passed the final approach fix.
- (c) Position of the aircraft in relation to the final approach course and the glide path. This information will be issued in conjunction with the distance from touchdown information and whenever the aircraft deviates from the final approach course or glide path in excess of specified limits.

NOTE: Glide path information is not issued during a back course approach, since the descent paths of these approaches generally do not coincide with the depicted PAR glide path.

- (d) Warning of any situation which, in the controller's judgement, is likely to affect the safety of the flight.

Provision of advisory information will be terminated and the pilot so informed when:

- (a) The pilot reports the runway in sight, or
- (b) When the aircraft reaches the end of the runway.

When approaches are being monitored, the radar serves only as a secondary aid, since the pilot has chosen the ILS as the primary aid for the approach. Accordingly, controllers have been cautioned to avoid superfluous transmissions which might distract the pilot from the conduct of the approach.

Visual Approaches

A visual approach in relation to IFR operation may be defined as that part of an approach by an IFR flight executed by means of visual reference to the surface of the earth.

Visual approaches have operational application under three distinct situations:

1. The pilot of an IFR flight performing his own navigation encounters environmental conditions favouring this type of an approach.
2. The pilot of an IFR flight being radar vectored for an approach encounters conditions as in 1.

In 1. and 2. the onus is on the pilot to request clearance for a visual approach. This may be issued by the controller provided that the reported ground visibility is equal to or greater than one statute mile and traffic conditions permit.

3. In order to gain operational advantages, the controller may initiate visual approach clearance to the pilot of an IFR flight being radar vectored for an approach provided:

- (a) The reported ceiling is at least 500 feet above the minimum radar vectoring altitude and the ground visibility is at least 5 statute miles.
- (b) The pilot reports sighting the airport.
- (c) The pilot reports sighting any preceding IFR or VFR traffic.

Radar separation from any preceding IFR aircraft will be provided until the clearance for visual approach is issued. Radar service will be terminated when the pilot is told to contact the tower. The tower will assign a landing sequence number.

Transponder Equipped Aircraft

Transponders should be adjusted to "stand-by" or "off" as soon as practicable after landing is completed.

EMERGENCIES

DECLARATION OF EMERGENCY

Whenever pilots are faced with an emergency situation, ATC expects the pilot will take whatever action is considered necessary. ATC will assist pilots in any way possible whenever an emergency is declared. Pilots are requested to advise ATC as soon as practicable of any deviations from altitude or route necessitated by an emergency situation, in order that every effort can be made to minimize conflict with other aircraft. Pilots are reminded that they may be asked by ATC for a written report concerning the nature of a declared emergency.

Pilots of transponder equipped aircraft, when experiencing an emergency and unable to establish communications immediately with an air traffic control unit, may indicate "Emergency" to ATC by adjusting the transponder to reply on Mode A/3, Code 77. Thereafter, radio communications should be established with ATC as soon as possible.

It should be pointed out that, when use is made of Code 77, the signal may not be detected because the aircraft may not be within the range of SSR coverage.

COMMUNICATIONS FAILURE IN IFR FLIGHT

All pilots and operators are urged to study the "Communications Failure in IFR Flight Order" (Air Navigation Order, Series V, No. 5).

While it is not proposed to repeat the contents of this Air Navigation Order, the following points of major importance are emphasized:

- A. Should a communication failure occur when operating in VFR weather conditions, or should VFR weather conditions be subsequently encountered, the pilot must continue to fly in VFR weather conditions and land at the nearest suitable aerodrome;
- B. Should the failure occur when operating in IFR weather conditions and should VFR weather conditions not be encountered, the pilot shall:
 - (1) except under the circumstances covered in (2) proceed to the aerodrome of first intended landing in accordance with the flight plan as amended by clearances and instructions received and acknowledged, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher; and on reaching the facility to be used for approach, commence a complete instrument approach at whichever of the following times is the latest:
 - (a) the time of arrival, or
 - (b) the estimated time of arrival last notified to and acknowledged by air traffic control, or
 - (c) the expected approach time last received and acknowledged.

- (2) if flying a turbine-powered (turbo-propeller or turbo-jet) aircraft and cleared on departure to a point other than destination, proceed to the destination aerodrome in accordance with the flight plan, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher, until ten minutes beyond the point specified in the clearance (clearance limit) and then proceed at the altitude(s) or flight level(s) filed in the flight plan. On reaching the facility to be used for approach at the destination aerodrome, commence a complete instrument approach at either the time of arrival or the estimated time of arrival last notified to and acknowledged by air traffic control, whichever is the later.

- C. If a communication failure occurs after the pilot has received holding instructions and the procedure in B is being followed, he shall leave the holding point at the time specified in the clearance, the expected further clearance time, or the expected approach time, whichever has been issued.

If a communication failure occurs while an aircraft is being vectored, the pilot shall proceed by a direct route from the point of communication failure to the fix, course or airway specified in the vector instruction.

When air traffic control clears a turbine-powered aircraft to the aerodrome of first intended landing, it will be at an altitude or flight level considered operationally suited to these aircraft. In these circumstances, should a communications failure occur, it will be possible for the aircraft to proceed to the aerodrome of first intended landing at the assigned altitude or flight level. It is the responsibility of the pilot to advise ATC whenever the initially assigned altitude will not permit the aircraft to proceed to the airport of destination if a communication failure occurred.

On flights from Canada to the United States, should a communication failure occur prior to crossing the border, the pilot of a turbine-powered aircraft, who is complying with para B (2), will consider the altitude at which he has flight planned for the border crossing segment of the route as the last assigned altitude for the purpose of complying with the United States communications failure regulations on entering United States airspace. When the aircraft will enter United States airspace within 10 minutes after passing the clearance limit, climb to the flight planned border crossing altitude is to be commenced at the estimated time of crossing the Canada/United States boundary.

Pilots of transponder-equipped aircraft, when experiencing a two-way communications failure, may indicate the situation to ATC by selecting Mode A/3 Code 76. This action is an indication of the situation only, and does not relieve the pilot of the requirement to comply with the "Communications Failure in IFR Flight Order" (ANO Series V, No. 5).

NOTE: When use is made of Code 76, the signal may not be detected either because the aircraft is not within SSR coverage or because the ATC unit concerned is using SSR equipment which does not automatically detect Code 76.

Should a situation develop for which there is no laid down procedure, the pilot-in-command will be expected to act in accordance with his own judgement. In any event, ATC will protect the airspace in the immediate vicinity of the aerodrome of first intended landing for a period of 30 minutes from the time at which the aircraft is expected to commence approach.

Reporting Malfunctions of Navigation and Communications Equipment

The pilot-in-command of an aircraft in IFR flight within controlled airspace shall report immediately to the appropriate air traffic control unit any malfunction of navigation or air/ground communications equipment.

Examples:

- (a) loss of VOR, ADF or low frequency navigation capability, or
- (b) complete or partial loss of ILS capability, or
- (c) impairment of air/ground communications capability, or

- (d) impairment of transponder serviceability.

Having received this information, Air Traffic Control will take into account any limitations in navigation or air/ground communications equipment and control the aircraft accordingly.

Emergency Radar Service to VFR Flights

Radar equipped ATC units will provide all possible assistance to VFR flights which are unable to remain VFR, or are in any type of emergency or distress. Pilots desiring radar assistance for other reasons should refer to the section of this manual entitled "Radar Assistance to VFR Flights".

Emergency radar assistance will be given to VFR flights which are able to maintain two-way radio communication with the unit, are within radar coverage, and can be radar identified.

Pilots requiring radar assistance during emergency conditions should contact the nearest ATC unit and provide the following information:

- (a) Declaration of emergency (state nature of difficulty and type of assistance required).
- (b) Position of aircraft and weather conditions within which the flight is operating.
- (c) Type of aircraft, altitude, and whether equipped for IFR flight.
- (d) Whether pilot has an IFR Rating.

FLIGHT INFORMATION SERVICE

GENERAL

Flight information service is provided by air traffic control units to assist pilots of aircraft by supplying information concerning known hazardous flight conditions. This information will include data concerning unfavourable flight conditions and other known hazards, which may not have been available to the pilot prior to take-off or which may have developed along the route of flight.

The air traffic control service has been established primarily for the prevention of collisions and the expediting of traffic. The provision of such service will take precedence over the provision of flight information service, but every effort will be made to provide flight information and assistance.

Flight information will be made available, whenever practicable, to any aircraft in communication with an air traffic control unit, prior to take-off or when in flight except where such service is provided by the aircraft operator. Many factors (such as volume of traffic, controller workload, communications frequency congestion and limitations of radar equipment) may prevent a controller from providing this service.

VFR flights will be provided with information concerning:

- (a) Severe weather conditions along the proposed route of flight;
- (b) Changes in the serviceability of navigation aids;
- (c) Conditions of airports and associated facilities;
- (d) Other items considered pertinent to the safety of flight.

IFR flights will be provided with information concerning:

- (a) Severe weather conditions;
- (b) Weather conditions reported or forecast at destination or alternate aerodrome;

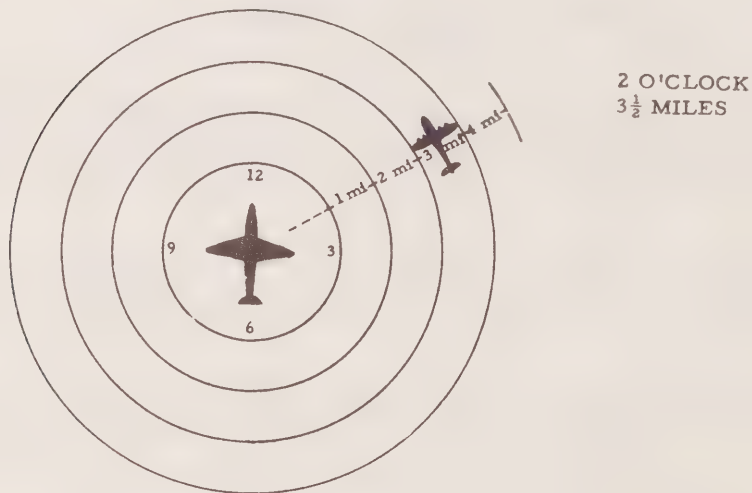
- (c) Changes in the serviceability of navigation aids;
- (d) Condition of airports and associated facilities;
- (e) Other items considered pertinent to the safety of flight.

Flight information messages are intended as information only. If a specific action is suggested, the message will be prefixed by the term "ATC SUGGESTS ..." or "SUGGEST YOU ..." and the pilot will be informed of the purpose of the suggested action. The pilot is responsible for making the final decision concerning any suggestion.

Surveillance radar equipment is frequently used in the provision of information concerning severe weather conditions, chaff drops, bird activity and possible traffic conflicts. Due to limitations inherent in all radar systems, aircraft, weather disturbances, etc., cannot be detected in all cases.

When issuing radar information, ATC will frequently define the relative location of traffic, weather areas, etc., by referring to the "clock" position system. A pilot receiving such information may determine the approximate location of traffic, weather, etc., in relation to his track which, regardless of direction, is always considered as 12 o'clock.

The following diagram illustrates the "clock" system.



Traffic information in this case will be issued as follows:

"TRAFFIC, 2 O'CLOCK 3 1/2 MILES, NORTHWEST-BOUND".

NOTE: The relative speed and the type of aircraft and altitude if known will be given.

BIRD ACTIVITY INFORMATION

Information concerning bird activity, obtained through controller's observations or pilot reports, will be provided to aircraft operating in the area concerned. In addition, pilots may be warned of possible bird hazards if radar observation indicates the possibility of bird activity. Information will be provided concerning:

- (a) Size or species of bird, if known.
- (b) Location.
- (c) Direction of flight.
- (d) Altitude, if known.

CHAFF INFORMATION

ATC will provide pilots who intend to operate through the area concerned with all available information relating to proposed or actual chaff drops.

- (a) Location of the chaff drop area.
- (b) Time of drop.
- (c) Estimated speed and direction of drift.
- (d) Altitudes likely to be affected.
- (e) Relative intensity of chaff.

SEVERE WEATHER INFORMATION

Whenever practicable, ATC will provide flights with severe weather information pertinent to the area concerned. Pilots may assist ATC by providing pilot reports of severe weather conditions which they encounter. ATC will endeavour to suggest alternate routes available in order to avoid areas in which severe weather exists.

Radar-equipped ATC units can often provide information on the location and movement of areas of heavy precipitation. However, during severe weather conditions the radar may be adjusted to eliminate or reduce radar returns from heavy precipitation areas in order to permit the detection of aircraft. When requested by a pilot, and provided traffic conditions permit, controllers will provide the pilot with detailed information on the location of heavy precipitation areas.

RADAR TRAFFIC INFORMATION

ATC will provide IFR and CVFR flights with information on observed radar targets whenever it is believed the traffic will be of concern to the pilot, unless the pilot states he does not want the information. This information may be provided to VFR aircraft when requested by the pilot.

If requested by the pilot, ATC will attempt to provide radar separation between identified IFR aircraft and the unknown observed aircraft.

Traffic information, when passed to radar-identified aircraft will be issued as follows:

1. Position of the traffic in relation to the aircraft.
2. Direction in which the traffic is proceeding.
3. Type of aircraft and altitude, if known, or the relative speed of the traffic.

Example:

TRAFFIC, 10 O'CLOCK, 6 MILES, SOUTHEAST-BOUND, (type of aircraft and altitude, or relative speed).

An aircraft not radar-identified would be issued traffic information in the following manner:

1. Position of the traffic in relation to a fix.

2. Direction in which the traffic is proceeding.
3. Type of aircraft and altitude, if known, or relative speed.

Example:

TRAFFIC, 7 MILES SOUTH OF QUEBEC RANGE, NORTHBOUND, (type of aircraft and altitude, or relative speed).

RADAR NAVIGATION ASSISTANCE TO VFR FLIGHTS

When requested by pilots, radar-equipped ATC units will provide assistance to navigation in the form of position information, vectors or track and ground speed checks. Flights requesting this assistance must be operating within areas of radar and communication coverage and be radar-identified.

VFR flights may be provided this service:

- (a) at the request of a pilot, when traffic conditions permit, or
- (b) when the controller suggests and the pilot concurs, or
- (c) in the interest of flight safety.

The responsibility for avoiding other aircraft and maintaining flight in VFR weather conditions remains with the pilot of a VFR flight being provided with radar vectors.

If a radar vector will lead a VFR flight into IFR weather conditions the pilot must inform the controller and take the following action:

- (a) if practicable, obtain a vector which will allow the flight to remain in VFR weather conditions, or
- (b) if an alternative vector is not practicable, revert to navigation without radar assistance, or
- (c) if the pilot has an IFR rating and the aircraft is equipped for IFR flight, he may file an IFR flight plan, and request an IFR clearance.

AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS)

Automatic Terminal Information Service (ATIS) is the continuous broadcast of recorded non-control information on a VOR or discrete VHF/UHF frequency.

ATIS messages are recorded in a standard format and contain such information as:

- i) Current weather at the airport, including ceiling and sky condition, visibility, obstructions to visibility, temperature, dew point and altimeter setting.
- ii) The type/s of instrument approach and runway/s in use for arriving aircraft.
- iii) The runway/s in use for departing aircraft.
- iv) NOTAM or excerpts from NOTAM regarding the serviceability of pertinent aids to navigation and field conditions which would affect arriving or departing aircraft.

Each recording will be identified by a phonetic alphabet code letter, beginning with "ALPHA". Succeeding letters will be used for each subsequent message.

Example of ATIS Message:

"THIS IS TORONTO INTERNATIONAL AIRPORT INFORMATION BRAVO. TORONTO

WEATHER: TWO THOUSAND SCATTERED, MEASURED CEILING THREE THOUSAND OVERCAST, VISIBILITY FIVE, HAZE; TEMPERATURE SIX FIVE. DEW POINT SIX ZERO; WIND ONE THREE ZERO AT TEN; ALTIMETER TWO NINER NINER TWO. EXPECT ILS RUNWAY ONE FOUR APPROACH. LANDING RUNWAY ONE FOUR. DEPARTURES ON RUNWAY ONE ZERO. NOTAM, GLIDE PATH ILS RUNWAY ZERO FIVE RIGHT OUT OF SERVICE UNTIL FURTHER NOTICE. INFORM TORONTO ATC ON INITIAL CONTACT THAT YOU HAVE RECEIVED INFORMATION BRAVO."

NOTE: Current time and RVR measurements will not be included in the ATIS message, but will be issued in accordance with current practices.

Pilots hearing the broadcast should inform the ATC unit on first contact (centre, terminal, ground, tower, etc.) that they have received the information, by repeating the code word which identifies the message, thus obviating the need for the controller to issue information.

Example:

"..... HAVE RECEIVED INFORMATION BRAVO".

During periods of rapidly changing conditions which would create difficulties in keeping the ATIS message current, the following message will be recorded and broadcast:

"BECAUSE OF RAPIDLY CHANGING WEATHER/AIRPORT CONDITIONS, CONTACT ATC FOR CURRENT INFORMATION."

The success and effectiveness of ATIS is largely dependent upon the cooperation and participation of airspace users. Although participation is voluntary, pilots are urged to cooperate in the ATIS programme as the service is introduced.

SPECIAL PROCEDURES

EDMONTON UPPER FLIGHT INFORMATION REGION

Flight Information Service is provided from the Edmonton Area Control Centre to all aircraft operating within the Edmonton UIR.

Within the Edmonton UIR, altimeters shall be set to Standard Pressure (29.92 inches of mercury or 1013.2 mbs.) and flight levels flown in accordance with the following table:

<u>True Track</u>	<u>Flight Levels</u>
Between 000° and 179° incl.	250, 290, 330, 370, 410, 450, etc.
Between 180° and 359° incl.	270, 310, 350, 390, 430, 470, etc.

All flights operating within the Edmonton UIR are requested to comply with the flight planning, reporting and communication procedures described as follows:

Flight Planning

Flight plans should be filed in accordance with ICAO flight planning procedures. The route of flight should be defined by listing, in latitude and longitude:

- (i) the points of entry into and exit from the UIR; and
- (ii) sufficient additional points to adequately portray the intended track, including the significant reporting points required for position reporting as detailed below.

Position Reporting

Position reports should be made at the following locations in accordance with ICAO AIREP format (including Section 3):

- (i) for flights North of 85° North latitude the points of entry into and exit from the UIR;
- (ii) flights whose track is predominantly North or South (315° true clockwise through 045° true or the reciprocals) over fixed reporting lines coincident with each 5° of latitude North or South of and including 80° North latitude;
- (iv) at such other points as may be considered desirable by the pilot or requested by ATC.

Special Report

A special report should be made whenever a change is made in flight level or route last notified to ATC.

Air/Ground Communications

The Resolute Aeradio Station is the primary air/ground communication station serving the Edmonton UIR. Communication should be established with Resolute on the appropriate published frequency on entry into the area and a listening watch on this station maintained while in the area. If communication cannot be established with Resolute, position reports and special reports should be made to Frobisher, Edmonton, or other International Stations within the area adjacent to the Edmonton UIR, on published frequencies.

NORTH ATLANTIC OCEANIC CONTROL PROCEDURES

Flight Planning Procedures for Westbound North Atlantic Non-Stop Flights

Pilots of potential non-stop westbound flights may flight plan to any suitable aeronautical radio facility or designated intersection east of 70°00'W, and in addition, specify route and altitude to any of the approved Regular or Alternate aerodromes listed in the current DOT Information Circular on "USE OF AERODROMES BY AIRCRAFT ENGAGED IN INTERNATIONAL AIR CARRIER OPERATIONS" for use as the flight planned alternate.

Prior to reaching the flight planned fix or clearance limit, the pilot, after assessing the onward flight conditions, will normally file to the airport of ultimate destination and will request an ATC clearance accordingly. However, should it be determined that flight to the airport of destination is undesirable, the pilot will file to a regular or alternate airport and request an appropriate ATC clearance.

If for any reason an onward ATC clearance from the flight planned fix is not obtained by the time the fix is reached, the pilot must proceed towards the alternate in the manner specified in the flight plan or amendments thereto.

This procedure is designated only to facilitate the operation of certain types of aircraft in use on the North Atlantic with a long range capability. It is not designed or intended to increase the use of any of the approved Alternates, except under proper circumstances. Any abuse of the procedure may result in the arrangement being cancelled.

Arrangements for Reduced Lateral Separation

Eastbound aircraft on diverging tracks from North America which are separated by 60 nautical miles within 250 nautical miles of a ground navigational facility will be deemed to have lateral separation provided the tracks diverge to establish 120 nautical miles separation at the next designated reporting point. The minimum lateral separation applied is 120 nautical miles between the tracks of all aircraft.

Flight Planning Procedures

All generally eastbound or westbound aircraft planning to operate within the Gander Oceanic Control Area must flight plan so that specified ten degrees of longitude (60°00'W, 50°00'W, 40°00'W, 30°00'W) as applicable are crossed at whole degrees of latitude. Generally northbound or southbound aircraft must flight plan so that specified parallels of latitude spaced

at 5° intervals (65°00'N, 60°00'N, 55°00'N, etc.) are crossed at whole degrees of longitude.

All flights must operate on a great circle track joining successive significant points.

"Estimated Elapsed Times" (EET) now required for North Atlantic Operations are replaced by "Estimated Times Over Significant Points Enroute" (EST) and are to be inserted in Item 18 of the new ICAO flight plan.

TAS is to be inserted in Item 15 of the form, except for those stage lengths along the route of flight within the NAT Region where Mach number techniques are employed. In this area, speed shall be indicated as a Mach number.

Pilots entering the Gander Oceanic Control Area may expect that an abbreviated clearance will be issued when Air Traffic Control clears the aircraft to follow one of the organized tracks which are preplanned by ATC to organize and accommodate the oceanic traffic during peak traffic periods. If a pilot is cleared on other than an organized track, ATC will specify full details of the cleared track within the clearance.

When an abbreviated clearance is issued, it will include the cleared track which will be specified by a code letter, the flight level at which the aircraft is cleared, the Mach number to be maintained and, if the aircraft is designated to report meteorological information, the pilot will be advised by the inclusion in the clearance of the phrase "Send Met. Reports". On receipt of this abbreviated clearance, the pilot shall read back to the issuing authority the full details of the track specified by the code letter and in addition the other contents of the clearance. The New York, Moncton and Gander Area Control Centres in issuing clearances for eastbound flights over the North Atlantic on an organized track will identify the track to be used by one of the last five letters of the alphabet. As part of the preflight planning, operators are to ensure that their crews have the current organized track information which is issued by the Gander Area Control Centre.

Position Reporting Procedures

Unless otherwise requested by Air Traffic Control, flights operating within the Gander Oceanic Control Area shall make position reports in accordance with the reporting procedures detailed in ICAO DOC 7030 to Gander (primary) or Goose (secondary) on the appropriate international air/ground frequencies as follows:

- (a) Predominantly north/south flights shall report at each significant point listed in the flight plan.
- (b) Westbound flights shall report at 30°00'W, 40°00'W, 50°00'W and, if crossed north of 53°00'N, the Domestic/Oceanic boundary. In addition, all flights which are operating below Flight Level 290 shall also report at 45°00'W.
- (c) Eastbound flights shall report at 50°00'W, 40°00'W, 30°00'W and, if crossed north of 53°00'N, the Domestic/Oceanic boundary.

All flights operating in that portion of the Gander Oceanic Control Area over Southern Greenland and the adjoining waters at FL 160 and above should report primarily to Gander or, alternatively, to Goose, Prins Christian Sund or Frobisher, on international air/ground frequencies.

In addition to maintaining a listening watch on the appropriate enroute frequency, flights are to establish communication with Gander, Moncton, Saglek or Frobisher, whichever is appropriate, as soon as possible, and maintain a listening watch in accordance with the following:

NOTE: For each location, the first two frequencies listed are the primary frequencies.

1. Within 200 nautical miles of Gander, Saglek and Frobisher at or Above FL 290, and of Goose at or above FL 240:

- a) Gander - Call Gander Centre - 133.9, 294.5, 119.7, 384.5, 125.9 or 119.4 MHz.
 - b) Saglek - Call Saglek Radio - 122.2 or 364.2 MHz.
 - c) Frobisher - Call Frobisher Radio - 122.2, 287.0 or 126.7 MHz.
- Call Frobisher International Radio - 126.9 MHz.
 - d) Goose - Call Moncton Centre - At or above FL 350 - 133.4 MHz.
- At or below FL 330 - 133.1 MHz.
2. Within 150 nautical miles of Gander, Saglek and Frobisher below FL 290, and of Goose below FL 240:
- a) Gander - Call Gander Centre - 119.7, 294.5, 119.9 or 384.5 MHz.
 - b) Saglek - Call Saglek Radio - 122.2 or 364.2 MHz.
 - c) Frobisher - Call Frobisher Radio - 122.2, 287.0 or 126.7 MHz.
- Call Frobisher International Radio - 126.9 MHz.
 - d) Goose - Call Moncton Centre - 120.4, 294.5, 132.4 or 324.3 MHz.
3. Westbound flights at any level within 150 nautical miles of Sydney, excluding flights established on designated airways:
- Call Moncton Centre - 134.4, 266.3 or 118.2 MHz.

In these position reporting procedures, the pilot shall normally identify the subsequent position to report as the significant point at which the aircraft is next required to report its position. If the estimated time over the next significant point is found to be in error by five minutes or more, a revised estimated time shall be transmitted as soon as possible to the appropriate Air Traffic Control Unit. For turbo-jet aircraft, the Mach number shall be included in the position report only when this information is specifically requested by Air Traffic Control.

Eastbound flights which traverse the Gander Domestic FIR in the high level structure between the hours 2300 GMT and 0800 GMT daily, are (in addition to monitoring the appropriate sector frequency) required to establish contact on the Gander clearance delivery frequency 119.4 unless otherwise directed, when within 200 miles of Gander.

All pilots operating aircraft within the Gander Oceanic Control Area under the Instrument Flight Rules shall make, record and report on a routine basis meteorological observations at each designated reporting point. This stipulation applies whether the aircraft is eastbound or westbound; however, aircraft which are cleared on an organized track are not required to make such observations or reports unless specifically requested to do so within their Air Traffic Control clearance.

Mach Numbers

The following procedures are applicable to jet aircraft equipped with Mach meter systems and operating in the Gander Oceanic Control Area:

- a) The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero point zero one (0.01) and ATC approval shall be requested before making any change. If it is necessary to make an immediate temporary change in Mach number (e.g., due to turbulence), ATC must be notified as soon as possible that such a change has been made.
- b) ATC will include in each clearance an approved Mach number.
- c) Operators are requested to ensure that Mach meter systems of aircraft be carefully calibrated in order to allow correct use of this equipment.

ADVANCED FLOW CONTROL PROCEDURES

Advanced Flow Control Procedures (AFCPs) have been developed by the United States Federal Aviation Administration to provide its Air Traffic Control system and its users with some reasonable degree of arrival delay prediction. They have been initially implemented for the New York area airports, John F. Kennedy (JFK), La Guardia (LGA) and Newark (EWR), effective January 15, 1969.

AFCP's are designed to:

- (a) Hold aircraft on the ground at departure points to absorb arrival delay in excess of one hour.
- (b) Distribute delays equitably among all users.
- (c) Limit holding in New York Centre's area to one one hour or less provided sufficient demand can be maintained on the ATC system to preclude gaps in the arrival sequence.
- (d) Eliminate enroute holding of traffic destined for Newark, La Guardia and Kennedy, in other than New York Centre's airspace.

Application of AFCP's will be based on the following:

- (a) Each IFR aircraft destined for Newark, La Guardia or Kennedy airport should file a flight plan so as to reach the departure Air Traffic Control Centre (ACC) at least $1\frac{1}{2}$ hours prior to the proposed departure time.
- (b) The departure ACC will assign a time of departure to each flight and advise the facility with which the flight plan was filed of this time at least one hour prior to the filed proposed departure time.
- (c) Pilots or operators must then call the facility with whom they filed and obtain their assigned time of departure.
- (d) Pilots will be expected to make good their assigned time of departure within plus or minus 15 minutes, unless otherwise instructed or restricted by ATC.
- (e) Upon receipt of an Advanced Flow Control Restriction (AFCR) message from the New York Centre, controllers of the concerned ACCs will notify their respective facilities that AFCRs are in effect for aircraft destined for Newark, La Guardia and Kennedy airports and specify ground delays as noted in the message. This early notification is designed to let operators be aware that they may experience a ground delay; specific delays will not be known until the assigned times of departure have been computed.

Montreal and Toronto Air Traffic Control Centres are participating in Advanced Flow Control Procedures. All aircraft destined for one of the three New York city airports that depart within the areas controlled by Toronto and Montreal ACCs may be affected.

In the interest of minimizing enroute delays or eliminating intermediate landings which probably would otherwise be necessary, pilots and operators are urged to extend their co-operation in recognizing and complying with these procedures.

EXTENDED TERMINAL CONTROL SERVICE

In the interest of improving flight safety in terminal areas, the air traffic control system of the Department of Transport will implement Extended Terminal Control Service in terminal areas around major Canadian airports.

Under the present system, radar surveillance is provided to IFR flights routinely and to VFR flights on request. The new service will employ radar for the surveillance, control and integration of all participating flights operating in a defined Extended Service Area. Participating flights will consist of all IFR flights and those VFR flights whose pilots wish to receive the service.

Airspace around other airports within the area will be defined and capped at suitable altitudes. Aircraft using this airspace will operate under normal existing rules and procedures.

All participating flights operating within the Extended Service Area and the control zone around the major airport will be directed via radar vectors, radio or visual reporting points. Therefore, it will be necessary for pilots of these flights to establish radio contact with ATC prior to operating within the Extended Service Area and the control zone serving the major airport and to maintain communication while operating within these areas.

The service will not relieve pilots of the responsibility for maintaining a sharp lookout for other aircraft, avoiding IFR weather conditions and maintaining adequate obstacle clearance.

Visual separation may be used when a pilot informs ATC that he has his traffic in sight and has confirmed that he will be able to maintain visual separation. It will require that participating pilots be capable of maintaining communication with the appropriate ATC units, that they abide by ATC clearances and that they be prepared to accept such direction as will allow effective integration into a smooth air traffic flow. They will be required, for example, to follow ATC directives or radar vectors, provided compliance will not result in their entering weather conditions below the VFR weather minima. If it becomes apparent to a pilot that compliance would have this result, he must advise ATC immediately and will receive alternative instructions. As some VFR flights may not be equipped to utilize existing navigation aids, prominent geographical fixes for reporting, routing and holding purposes will be designated. Extreme care will be taken in selecting these fixes to ensure that they are readily identifiable from the air. Selected visual fixes will be depicted on charts and included in this manual.

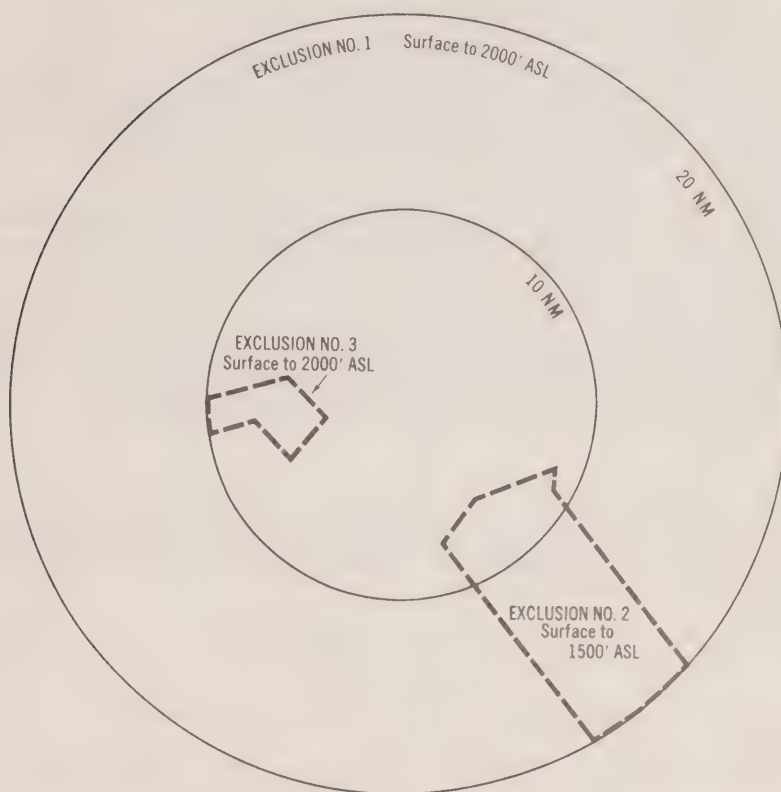
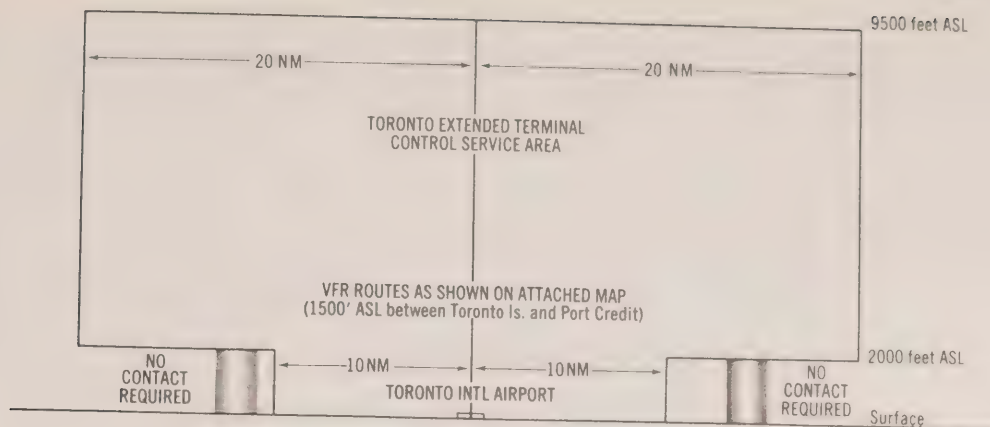
Amendments and additions to this NOTAM will be published detailing for each selected location, where and when the service is to be implemented, the dimensions of the Extended Service Area and other related areas, the pilot and ATC procedures to be employed, and the radio frequencies and reporting points to be used.

EXTENDED TERMINAL CONTROL SERVICE TORONTO, ONTARIO

Extended Terminal Control Service was implemented, with a 20 statute mile radius of the Toronto International Airport on January 1, 1968, in the interest of improving flight safety in the Toronto terminal area. The objective of this service was to provide participating VFR flights with radar surveillance, traffic information and other services previously provided only to IFR flights, in order to more efficiently control the flow of IFR and VFR arrivals and departures at the two major airports (Toronto International and Downsview) and to integrate this traffic with other flights transiting the area.

The very large response to this service created serious congestion on the Toronto Terminal Control radio frequencies and such a load on the control unit that the desired level of service could not be achieved. It has, therefore, become necessary to modify the original procedures and redefine the Service Area in order to meet the objective of the service. In addition, a number of VFR routes have been established to assist VFR flights in keeping clear of the Extended Service Area. Accordingly, the Toronto Extended Terminal Control Service Area (ETCSA) has been redefined as that airspace contained within a 20 nautical mile radius of the Toronto International Airport from the surface up to 9500 feet ASL, with the following exclusions:

- (1) The airspace between the 10 and 20 nautical mile radius of the Toronto International Airport from the surface to 2000 feet ASL.
- (2) The VFR route between the western perimeter of the Toronto Island Control Zone to Port Credit and the airspace south of this route to the outer perimeter of the ETCSA, which is from the surface to 1500 feet ASL.
- (3) The Brampton Corridor within the 10 nautical mile radius of the Toronto International Airport from the surface to 2000 feet ASL.



AS ALL IFR FLIGHTS ARE ROUTINELY INVOLVED, IN THE INTEREST OF IMPROVING FLIGHT SAFETY WITHIN THIS AREA, ALL PILOTS OPERATING IN ACCORDANCE WITH THE VISUAL FLIGHT RULES WHO NEED TO OPERATE WITHIN THE EXTENDED SERVICE AREA ARE TO COMPLY WITH THE FOLLOWING FLIGHT PROCEDURES.

Flight Procedures

IFR flights - Current IFR procedures will apply to IFR flights operating within the Toronto Extended Terminal Control Service Area.

VFR flights - Prior to entering and/or operating within the Toronto Extended Terminal Control Service Area, pilots must establish and maintain radio communication with Toronto Terminal Control on 119.7 MHz or 125.4 MHz.

Radar identification of aircraft operating within the ETCSA is of prime importance in the provision of an effective service. For this reason, arriving and transiting aircraft shall enter the ETCSA over, or as near as possible to, those navigation aids or numbered visual aids

depicted on the attached chart. Also, pilots shall contact Toronto Terminal when over or approaching those navigation or numbered visual aids. Aircraft equipped with DME or a transponder may enter at any point provided contact is established with Toronto Terminal immediately prior to entering the ETCSA.

Pilots are requested to provide the Terminal upon initial contact their geographical position, altitude and destination.

Example:

Pilot: TORONTO TERMINAL THIS IS ALPHA BRAVO CHARLIE, OVER.

Terminal: ABC TORONTO TERMINAL, OVER.

Pilot: TORONTO TERMINAL ABC OVER ORANGEVILLE, 5000 LANDING
TORONTO INTERNATIONAL.

Terminal will provide necessary information or instructions.

Aircraft operating within the excluded areas shall not contact Toronto Terminal Control except those aircraft intending to land at the Toronto International or Downsview Airports. Pilots intending to use navigation and/or approach aids within the ETCSA for training purposes are required to obtain prior approval from Toronto Terminal Control before take-off from their respective airports.

Aircraft operating wholly within the Toronto International, Toronto Island, Downsview and Buttonville control zones shall maintain communication with the control tower controlling the zone.

Any ATC instruction issued to VFR flights is based on the firm understanding that a pilot will advise ATC immediately if compliance with the instruction would result in his not being able to maintain adequate terrain or obstruction clearance, or to continue flight in accordance with the Visual Flight Rules. If so advised, ATC will issue alternate instructions.

ATC Procedures

When aircraft are within radar coverage, controllers may request arriving, departing or transiting aircraft to report their position in relation to radio or prominent geographical fixes, which may be within or outside the perimeter of the extended service area. These reports will assist ATC to radar identify the aircraft.

To the extent possible, traffic information, flight information and radar navigation assistance will be provided to VFR flights.

VFR aircraft may be provided with routing instructions in the ETCSA.

Radar vectors may be given to VFR flights operating within the ETCSA when:

- (a) Vectoring is requested by the pilot.
- (b) Vectoring is suggested to and accepted by the pilot.
- (c) Vectoring is necessary to position an aircraft in the approach sequence.
- (d) The controller considers that vectoring is necessary for safety of flight.

An altitude may be assigned to a VFR aircraft when considered necessary.

If these services to aircraft entering the ETCSA cannot be provided, or if service is terminated before an aircraft leaves the area, the pilot will be so informed by ATC.

THESE PROCEDURES ARE NOT TO BE INTERPRETED AS RELIEVING PILOTS OF THEIR RESPONSIBILITY TO SEE AND AVOID OTHER TRAFFIC, TO MAINTAIN APPROPRIATE

TERRAIN AND OBSTRUCTION CLEARANCE, OR TO REMAIN IN WEATHER CONDITIONS EQUAL TO OR BETTER THAN THE PUBLISHED VFR MINIMA.

VFR Routes

In order to accommodate VFR pilots wishing to avoid the ETCSA and to help ATC to differentiate between such flights and those operating within the ETCSA, VFR routes have been established along normal traffic flow patterns outside the 10 mile perimeter of the Toronto International Airport. Accordingly, pilots of aircraft operating to or from the following airports are requested to adhere to the following VFR routes at or below the altitudes specified. These routes are two miles wide and are shown on the attached chart. Traffic operating via these routes should fly so as to keep the centreline of such routes on their left. It is recognized that itinerant pilots may not be familiar with these routes and, if requested, ATC will provide the necessary assistance.

(1) Toronto Island to Buttonville

East via the Lakeshore to the Greenwood Racetrack then via the Don Valley Parkway to Highway 401 direct to Buttonville, altitude 2000 feet ASL or below.

(2) Toronto Island to Kitchener/ Waterloo, Guelph

West via the Lakeshore to Port Credit, altitude 1500 feet ASL or below, Port Credit to Oakville, altitude 2000 feet ASL or below, then direct to destination.

(3) Buttonville/Maple/King to Kitchener and Guelph and Hamilton

Buttonville direct Maple - direct Bolton then direct Cheltenham then via the Credit River to Georgetown, altitude 2000 feet ASL or below, then direct to destination.

NOTE: Pilots may leave or enter these routes, avoiding the ETCSA, at any point along the routes, EXCEPT TOWARDS THE AREA OF HIGH TERRAIN DEPICTED ON THE ATTACHED CHART.

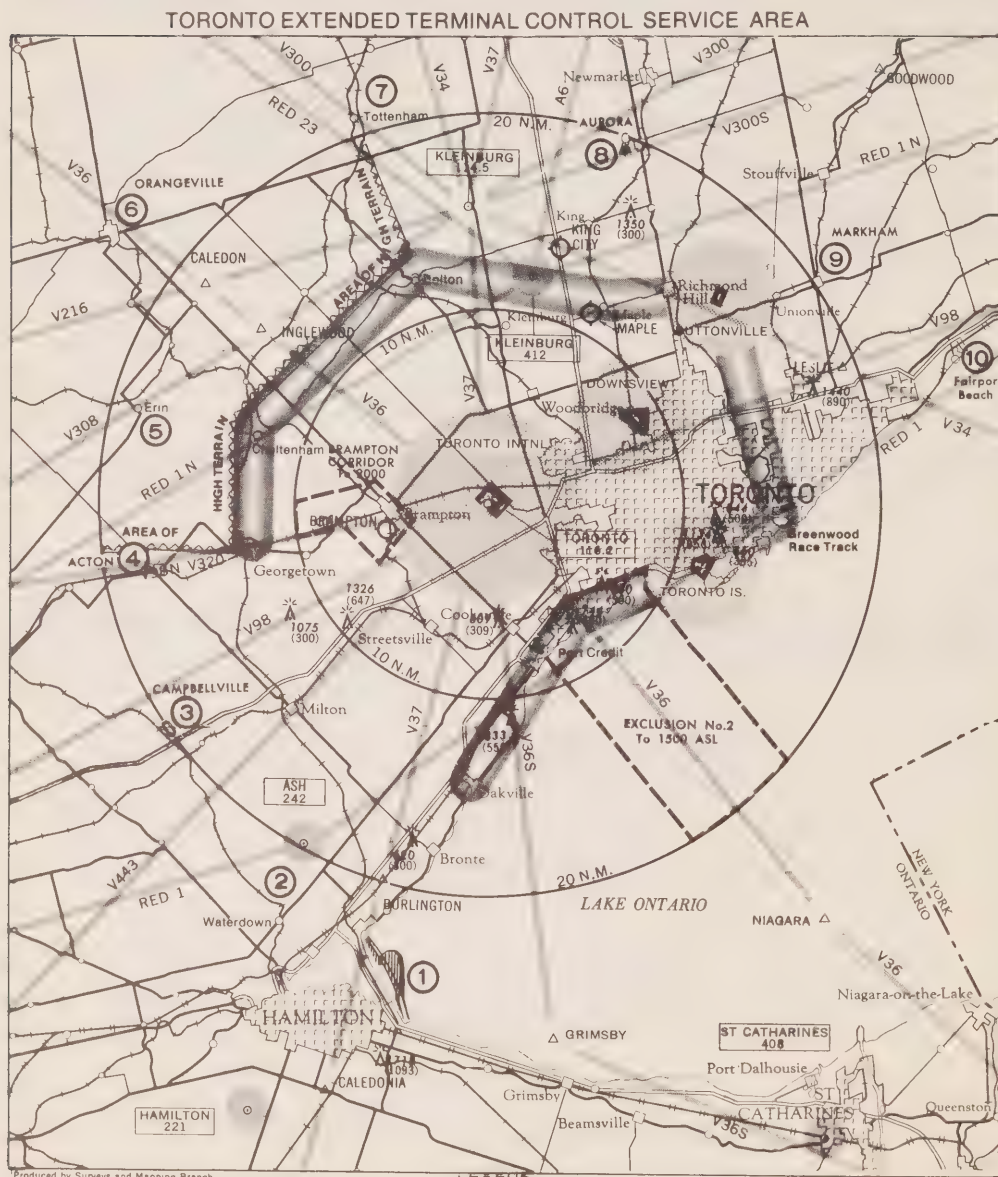
General

Pilots must establish and maintain radio communication with the appropriate control tower prior to operating within control zones at the following airports:

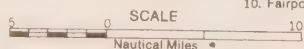
Buttonville
Downsview
Toronto International
Toronto Island

The control zones and corridors within the ETCSA are defined as follows:

- (a) Buttonville, Downsview and Toronto Island control zones - within a three nautical mile radius of the centre of the respective airports and extending vertically to 2000 feet ASL.
- (b) Toronto International Control Zone - within a five nautical mile radius of the centre of the Toronto International Airport excluding the Brampton Corridor and extending vertically to 2000 feet ASL.
- (c) Brampton Corridor is the area bounded on the east by Highway No. 10, on the south by Steeles Ave., on the north by the C.N.R. tracks, and on the west by the Streetsville Road. The corridor extends one mile either side of the northwest branch of the C.N.R. tracks between Brampton and the 10 n.m. perimeter of the ETCSA. The corridor is capped at 2000 feet ASL.



1. Burlington - Skyway Bridge
2. Waterdown
3. Campbellville - Mohawk Race Track
4. Acton - Beardmore Plant (in centre of town)
5. Erin
6. Orangeville
7. Tottenham
8. Aurora - Green Water Tank (in centre of town)
9. Markham
10. Fairport Beach



NUMBERED VISUAL AIDS

LEGEND

- Control zones
- TORONTO 116.2 VORTAC
- Non-directional radio beacon
- Boundary of VFR route

SPECIAL VFR PROCEDURES - VANCOUVER
INTERNATIONAL AIRPORT

In order to maintain a safe and orderly flow of IFR and VFR traffic within the Vancouver Control Zone during Special VFR weather conditions, the following procedures apply.

Holding areas have been established for the use of VFR aircraft awaiting clearance to enter the Vancouver Control Zone during Special VFR weather conditions as follows:

- i) Point Grey Jetty - A circular left-hand pattern centred on the end of the North Arm Jetty.
- ii) Spanish Banks - A circular left-hand pattern centred on the Point Grey Bell Buoy.
- iii) Steveston - A circular left-hand pattern centred on a point on the south bank of the South Arm of the Fraser River directly opposite the village of Steveston.
- iv) Lightship - A circular left-hand pattern centred on the Lightship.

Corridors between the airport and the approved holding areas have been established for use by Special VFR aircraft as follows:

- i) Point Grey Shoreline - via the west shore of Sea Island and the south side of the Fraser River Jetty to/from Point Grey.
- ii) Steveston Shoreline - via the west shore of Lulu Island to/from Steveston and via the Steveston Jetty to Lightship.

NOTE: The east side of this corridor is marked with 13 International orange Shore Markers 32 feet above sea level.

As indicated on the attached chart, this corridor lies along the west side of the CBU radio transmitting site with towers and guy wires rising to 200 feet ASL.

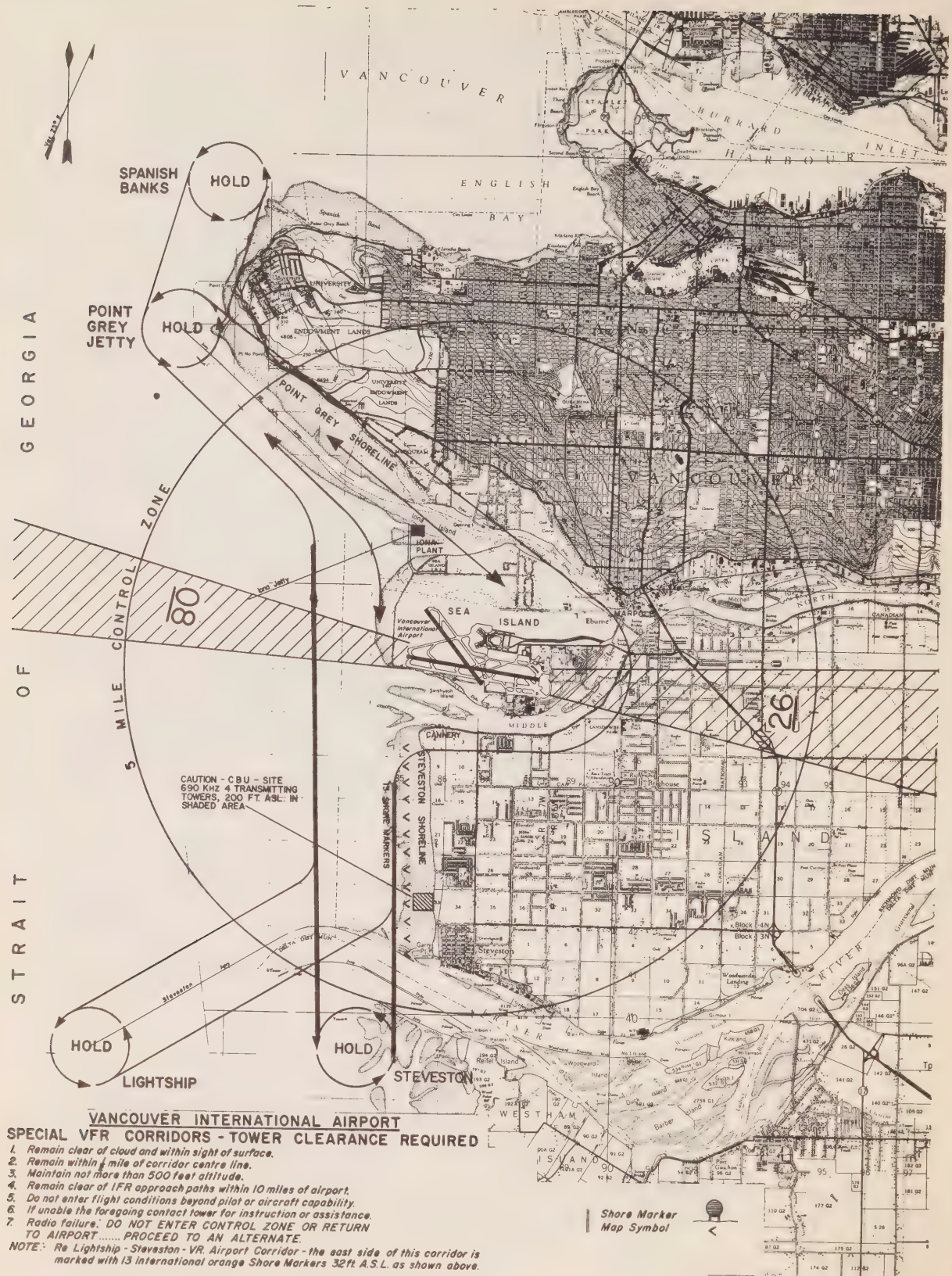
Pilots are advised to use the Shore Markers as a guide to remain clear of the transmitting towers yet within the prescribed corridor.

- iii) Point Grey North Arm - via the north arm of the Fraser River and the north side of the Fraser River Jetty to/from Point Grey.

General Procedures

It is necessary for pilots using the Special VFR corridors to adhere to the following:

- i) Refrain from entering flight conditions beyond pilot or aircraft capability.
- ii) Remain clear of cloud and within sight of the ground or water at all times.
- iii) Maintain an altitude of not more than 500 feet.
- iv) Remain within $\frac{1}{2}$ mile of the corridor centreline.
- v) Remain clear of IFR approach paths when within 10 miles of the airport.
- vi) If unable to comply with any of the foregoing requirements, contact the tower for instructions or assistance.
- vii) In the event of communications failure, DO NOT ENTER THE CONTROL ZONE OR RETURN TO THE AIRPORT - PROCEED TO AN ALTERNATE.



Departure Procedures

When requesting taxi clearance, a pilot should inform the airport controller of the flight's destination in order that, when possible, use of the corridor most appropriate to direction of intended flight may be authorized. On occasion, because of weather or traffic, it may be necessary for the airport controller to clear a flight to depart via a corridor leading away from destination. In this case the flight is to proceed via the approved corridor to a point beyond the control zone boundary and then, remaining well clear of the zone, continue to destination. Such a flight is not to re-enter the control zone without further ATC approval.

Arrival Procedures

Arriving VFR flights should contact Vancouver Tower well before reaching the control zone. When necessary, the airport controller will suggest that the flight hold in a specific holding area until traffic conditions permit issue of an approach clearance. The controller will provide an approximate time of entry into the control zone and information on any known traffic at the holding point. In each case the pilot has to decide whether he will hold or proceed elsewhere, and inform the tower accordingly. The controller will be able to issue clearance to the airport via an approved corridor only after the pilot reports in a specific holding area.

While the procedures outlined above will be normally used for Special VFR flight in the Vancouver Control Zone, S/VFR flights outside of the corridors will be approved from time to time if traffic permits.

RADAR ADVISORY SERVICE - WINDSOR, ONTARIO

The Windsor positive control zone is defined as that airspace within 10 n.m. radius of the centre of the Windsor airport from the ground to 2600 feet ASL excluding that portion lying within the confines of the USA.

The Detroit Metro terminal facility provides a radar advisory service to all aircraft operating between 2600 and 4000 feet ASL above the Windsor control zone. To obtain this service pilots should contact Detroit Metro approach control on 125.15 or 123.7 MHz and "Request Radar Service".

INFORMATION CONCERNING THE CONDUCT OF SCATANA TESTS

Pilots are advised that procedures have been developed for testing the effectiveness of the agencies and communications facilities which would be employed should it become necessary to implement the Security Control of Air Traffic and Air Navigation Aids Rules (ANO, Series V, No. 14, Part VI). These procedures will be exercised from time to time without advance notice.

These tests should in no way inconvenience aircraft in flight other than to make a routine acknowledgement of the test message which may be transmitted to them. The normal test message will read as follows:

"THIS IS A SCATANA TEST. REPEAT. THIS IS A SCATANA TEST. ALL AIRCRAFT WILL ACKNOWLEDGE THIS MESSAGE AND CONTINUE NORMAL OPERATIONS."

As these tests are considered essential to national security, the co-operation of all pilots and agencies is necessary.

NOTAM



Summary

27/69
1st October

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCHDocument
Publication

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1966	1968		1969		
8/66	5/68	26/68	6/69	18/69	23/69
	10/68	29/68	10/69	19/69	24/69
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	23/68	31/68	15/69	21/69	26/69
			17/69	22/69	27/69

SPECIAL NOTICES

4/67	superseded by 26/69
25/67	superseded by 17/69
27/67	superseded by 26/69
3/68	superseded by 26/69
6/68	superseded by 26/69
11/68	superseded by 26/69
21/68	superseded by 26/69
3/69	superseded by 26/69
7/69	superseded by 24/69
9/69	superseded by 19/69
12/69	superseded by 26/69
14/69	time expired - August 13th, 1969
16/69	superseded by 27/69
8/66	superseded by Information Circular 0/17/69 (effective 1st November 1969)

GENERAL

27/69 Summary

HAZARDS AND OBSTRUCTIONS

15/68	Hazards to Air Navigation
26/68	Hazards to Air Navigation (Supplements and Amends 15/68)
29/68	Hazards to Air Navigation (Supplements and Amends 15/68)
31/68	Hazards to Air Navigation - Military Flying Activity - North Pacific - SEA LION
13/69	Hazards to Air Navigation (Supplements and Amends 15/68)
18/69	Hazards to Air Navigation - Drone Flights in the Vicinity of Danger Area CYD 402, Shilo, Man.
24/69	Hazards to Air Navigation - Autumn Migration of Birds

CANADIAN AIRSPACE CHARACTERISTICS

5/68	Canadian Airspace Characteristics - Fraser Canyon VHF Communications Service
10/68	Edmonton Upper Flight Information Region
17/69	Canadian Airspace Characteristics

AERODROMES - LAND

23/68 Special Procedures and Facilities
10/69 Special Procedures and Facilities - CFB Camp Borden Training Area
19/69 Special Procedures and Facilities - Toronto International Airport - Charter Flights
and Other Aircraft Operations Requiring the Use of International Inspection Facilities
20/69 Special Procedures and Facilities - Noise Abatement Procedures for Ottawa and
Toronto International Airports
22/69 Special Procedures and Facilities

AERODROMES - WATER

30/68 Nelson River - Norway House
6/69 Rabbit Lake - Kenora, Ont.
25/69 Special Procedures and Facilities - Water Aerodromes - Waverley, Nova Scotia

AIR TRAFFIC CONTROL

8/66 Area Control Above FL 230 (See Special Notices)
15/69 Flight Procedure Within Control Zones
26/69 Air Traffic Control Procedures

RADIO

21/69 Implementation of New Aeronautical Mobile High Frequency Assignment Plan -
Canadian International Air/Ground Stations

RESTRICTED AIRSPACE

23/69 Temporary Restricted Airspace - Snowtime 70-2-E effective between 0315 hours
and 1045 hours GMT on October 29th, 1969.

NOTE 1 The latest amendment to the Aeronautics Act/Air Regulations book is No. 11 dated
24/3/69.
The latest amendment to the Air Navigation Orders book is No. 23 dated 13/6/69.

NOTE 2 At the end of the NOTAM summaries (on a space available basis) small items of
"GEN" - sometimes obscured by the importance of current information, may be
published under the heading "Where To Find It" as shown below.

WHERE TO FIND IT

AERONAUTICAL CHARTS FOR VISUAL FLIGHT

Aeronautical Route Chart Series
(scale 1:1, 000, 000 - 16 miles to the inch)

World Aeronautical Chart Series
(scale 1:1, 000, 000 - 16 miles to the inch)

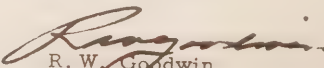
Canadian Pilotage Charts
(scale 1:500, 000 - 8 miles to the inch)

Copies of charts are available from:

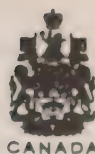
Map Distribution Office,
Department of Energy, Mines & Resources,
615 Booth Street,
Ottawa 4, Ontario, Canada.

Price: 50 cents per sheet

NOTE: Your cheque or money order should be made payable to the Receiver General of Canada
and should accompany your request.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



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3rd October

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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TEMPORARY RESTRICTED AIRSPACE

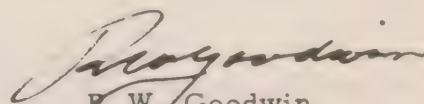
A large scale military air exercise to be known as Snowtime 70-3-C will take place over Canada between 0230 hours and 0940 hours Greenwich Mean Time on December 3, 1969.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

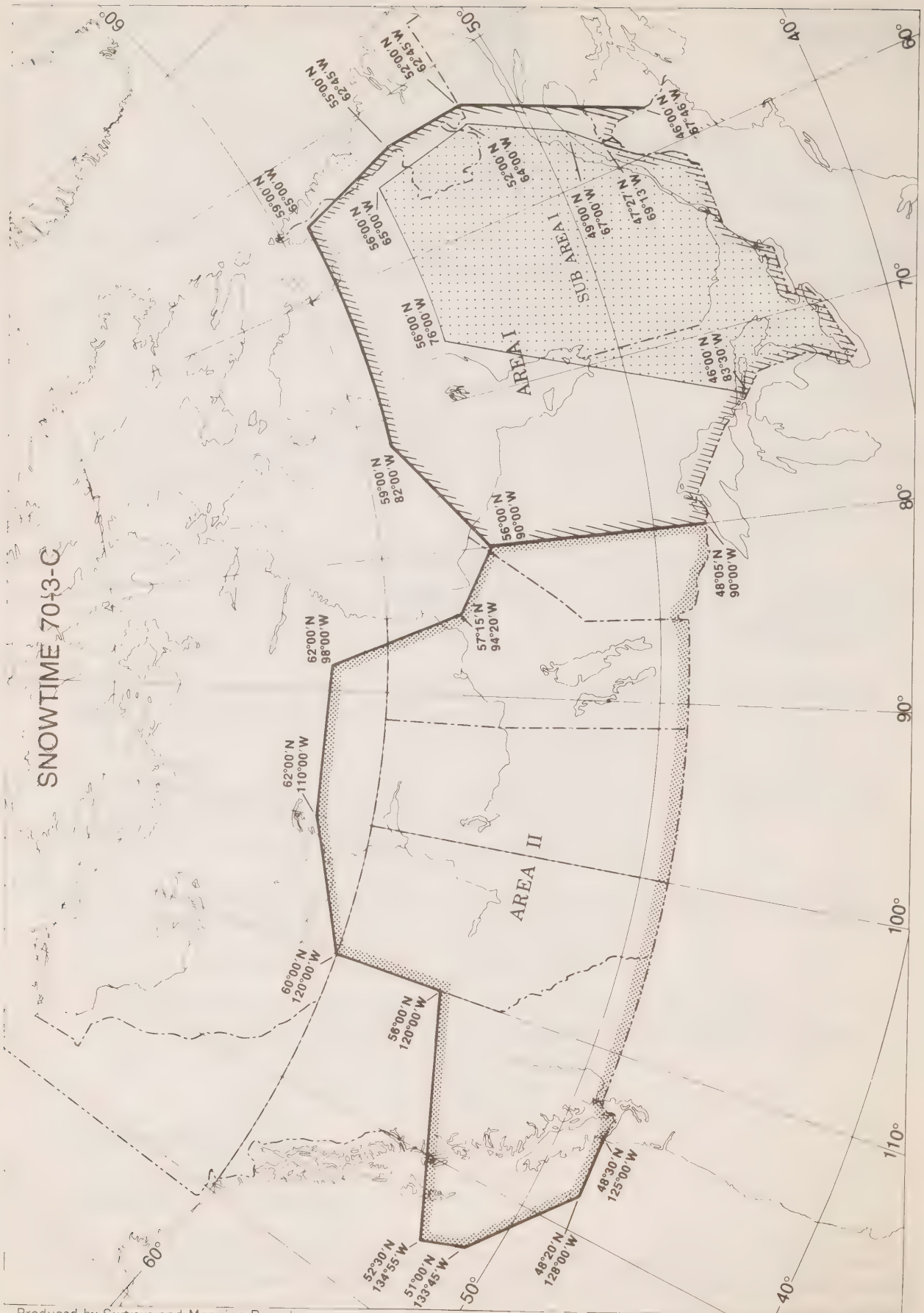
Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- AREA I - between flight level 210 and flight level 450 between 0330 hours and 0930 hours Greenwich Mean Time on December 3, 1969.
- SUB AREA I - between 5000 feet above mean sea level and flight level 210 between 0600 hours and 0940 hours Greenwich Mean Time on December 3, 1969.
- AREA II - between flight level 330 and flight level 450 between 0230 hours and 0830 hours Greenwich Mean Time on December 3, 1969.

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.


R. W. Goodwin,
Director, Civil Aviation.

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).



NOTAM



Air Traffic Control

29/69
14th October

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Government
Publications

TRANSMISSION OF METEOROLOGICAL INFORMATION TO ARRIVING AIRCRAFT

Effective 1 January, 1970, the term CAVOK (KAV-OH-KAY) will be introduced in Canada for use in air-ground communications when transmitting meteorological information to arriving aircraft.

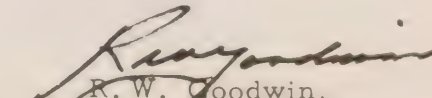
CAVOK will refer to the simultaneous occurrence of the following meteorological conditions:

- (a) cloud: no cloud of any amount below 5000 feet;
- (b) visibility: 6 miles or more;
- (c) weather: no precipitation or thunderstorm.

This term, coupled with other elements of meteorological information such as wind direction and velocity, altimeter setting and pertinent remarks, will be used in transmissions directed to arriving aircraft and, where applicable, in the composition of ATIS messages. A pilot, on receipt of CAVOK, may request that detailed information be provided.

CAVOK does not apply to the provision of meteorological information to enroute aircraft and, therefore, will not be used when such information is transmitted to aircraft engaged in that particular phase of flight.

The incorporation of CAVOK in Canadian aeronautical terminology is in keeping with a recommendation of the International Civil Aviation Organization (ICAO) Fifth Air Navigation Conference that the term be implemented for use on a world-wide basis.


R. W. Goodwin,
Director, Civil Aviation.

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).



NOTAM



Public

30/69
1st December

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TEMPORARY RESTRICTED AIRSPACE

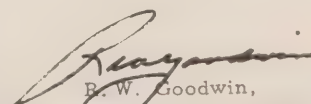
A large scale military air exercise to be known as Snowtime 70-4-C will take place over Canada between 0330 hours and 1130 hours Greenwich Mean Time on February 11, 1970.

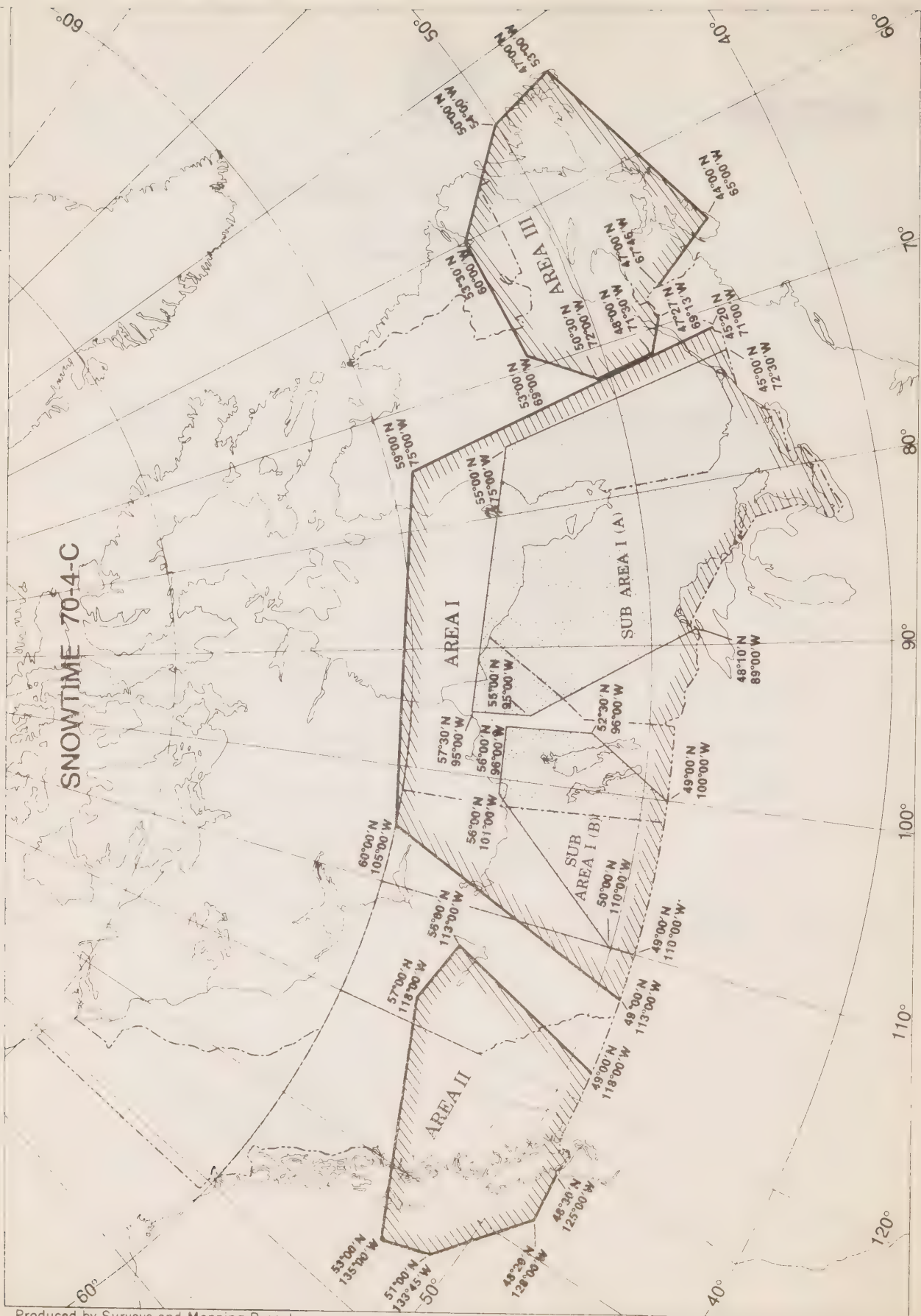
Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | | |
|----------------|---|---|
| AREA I | - | between flight level 210 and flight level 500 between 0330 hours and 1130 hours Greenwich Mean Time on February 11, 1970. |
| SUB AREA I (A) | - | between 4000 feet above mean sea level and flight level 210 between 0535 hours and 0950 hours Greenwich Mean Time on February 11, 1970. |
| SUB AREA I (B) | - | between 5000 feet above mean sea level and flight level 210 between 0920 hours and 1115 hours Greenwich Mean Time on February 11, 1970. |
| AREA II | - | between flight level 330 and flight level 390 between 0510 hours and 0925 hours Greenwich Mean Time on February 11, 1970. |
| AREA III | - | between flight level 230 and flight level 390 between 0600 hours and 1115 hours Greenwich Mean Time on February 11, 1970. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.


E. W. Goodwin,
Director, Civil Aviation.



NOTAM



Summary

1/70
1st January

DEPARTMENT OF TRANSPORT

AIR SERVICES
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NOTICES TO AIRMEN (NOTAM) IN EFFECT - 1st JANUARY, 1970

<u>1968</u>		<u>1969</u>			<u>1970</u>
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15/68	30/68	13/69	20/69	26/69	
23/68	31/68	17/69	21/69	29/69	
				30/69	

SPECIAL NOTICES

15/69 information now contained in Designated
Airspace Handbook
23/69 time expired - October 29, 1969
24/69 time expired - January 1, 1970
27/69 superseded by 1/70
28/69 time expired - December 3, 1969

GENERAL

1/70 Summary

HAZARDS AND OBSTRUCTIONS

15/68 Hazards to Air Navigation
26/68 Hazards to Air Navigation (Supplements and Amends 15/68)
29/68 Hazards to Air Navigation (Supplements and Amends 15/68)
31/68 Hazards to Air Navigation - Military Flying Activity - North Pacific - SEA LION
13/69 Hazards to Air Navigation (Supplements and Amends 15/68)
18/69 Hazards to Air Navigation - Drone Flights in the Vicinity of Danger Area CYD 402,
Shilo, Manitoba.

CANADIAN AIRSPACE CHARACTERISTICS

5/68 Fraser Canyon VHF Communications Service
10/68 Edmonton Upper Flight Information Region
17/69 Controlled and Uncontrolled Airspace

AEPODROMES - LAND

23/68 Special Procedures and Facilities
10/69 Special Procedures and Facilities - CFB Camp Borden Training Area
19/69 Special Procedures and Facilities - Toronto International Airport - Charter
Flights and Other Aircraft Operations Requiring the Use of International
Inspection Facilities
20/69 Special Procedures and Facilities - Noise Abatement Procedures for Ottawa and
Toronto International Airports
22/69 Special Procedures and Facilities (Supplements and Amends 23/68)

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND
RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

AERODROMES - WATER

30/68 Nelson River - Norway House, Manitoba
6/69 Rabbit Lake - Kenora, Ontario
25/69 Special Procedures and Facilities - Waverley, Nova Scotia

AIR TRAFFIC CONTROL

26/69 Air Traffic Control Procedures
29/69 Transmission of Meteorological Information to Arriving Aircraft

RADIO

21/69 Implementation of New Aeronautical Mobile High Frequency Assignment Plan -
Canadian International Air/Ground Stations

RESTRICTED AIRSPACE

30/69 Temporary Restricted Airspace - Snowtime 70-4-C effective between 0330 hours
and 1130 hours GMT on February 11th, 1970

NOTE: The latest amendment to the Aeronautics Act/Air Regulations book is No. 11 dated
24/3/69.
The latest amendment to the Air Navigation Orders book is No. 24 dated 15/10/69.

WHERE TO FIND IT

ENGINEERING AND INSPECTION MANUAL

(Catalogue No. T51-2/1)

Parts I, II, and III, complete with amendments 1 - 13 \$4.00
Amendments - per copy \$0.50

NOTE: The latest amendment is No. 19

AIR NAVIGATION RADIO AIDS

(Catalogue No. T51-)


This publication is issued quarterly, the first issue in 1970
will be Volume XXIV, Number 1.

Yearly subscription \$1.50
Single issues \$0.40

These publications are available from:

The Queen's Printer,
Government Printing Bureau,
Ottawa 4, Ontario, Canada.

NOTE: Your cheque or money order should be made payable to
the Receiver General of Canada and should accompany your
request.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Hazards

2/70
5th January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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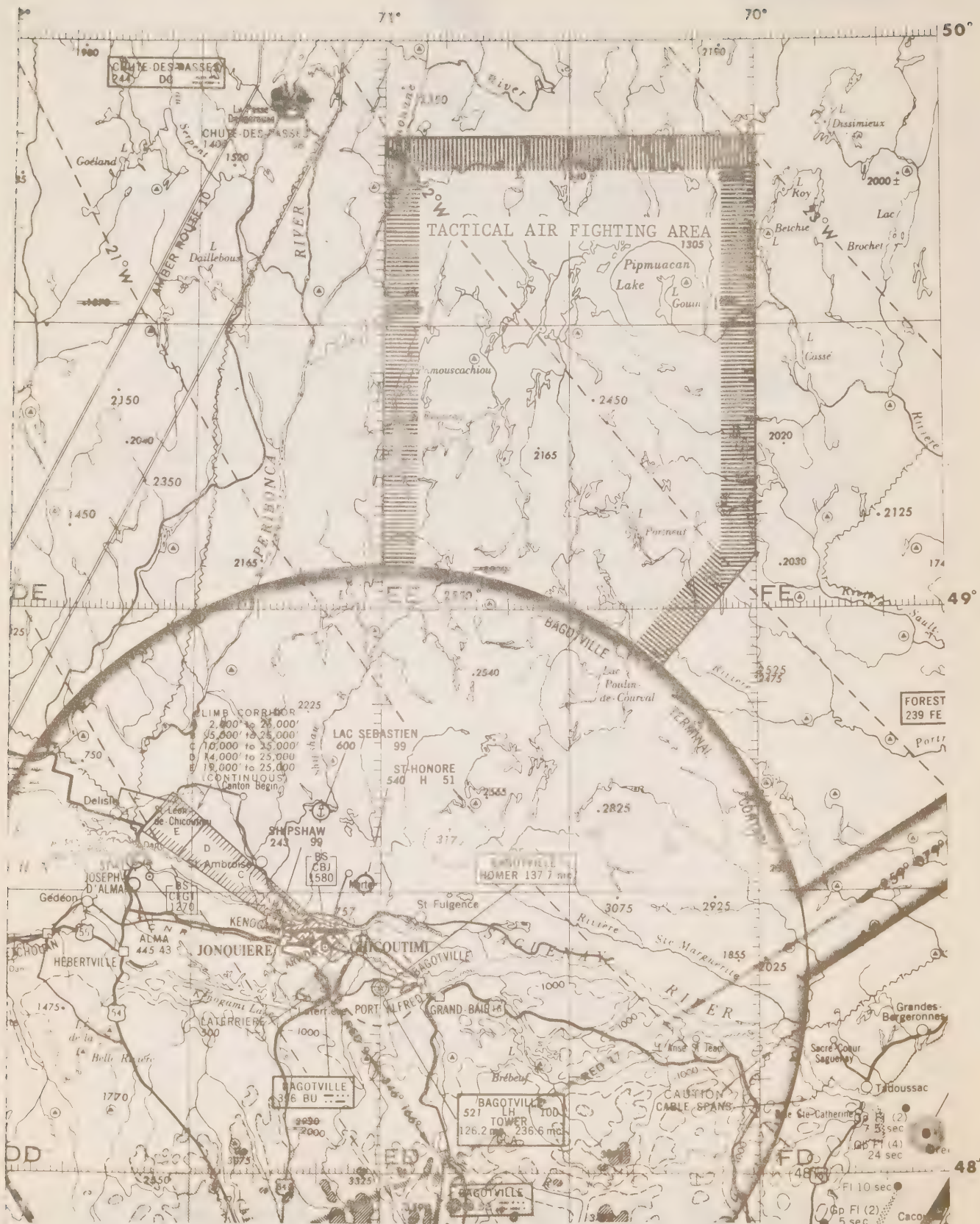
HAZARDS TO AIR NAVIGATION
(Supplementing NOTAM 15/68)

TACTICAL AIR FIGHTING AREA - BAGOTVILLE QUEBEC

High speed jet aircraft carry out air fighting exercises over the area depicted on the accompanying chart during daylight hours Mondays through Fridays inclusive. These exercises are conducted VFR and 1000-on-top between 3000 feet AGL and FL 450.

Pilots who cannot avoid flying over the area depicted are urged to exercise vigilance when flying within this airspace during the periods indicated.


R. W. Goodwin,
Director, Civil Aviation.



NOTAM

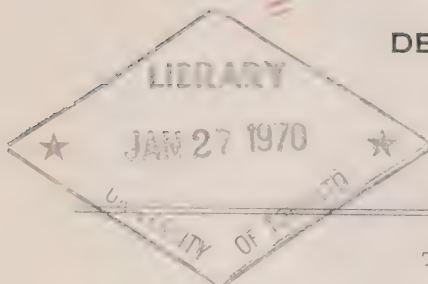


570
12th January

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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TEMPORARY RESTRICTED AIRSPACE

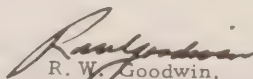
A large scale military air exercise to be known as Amalgam Mute 70-2-E will take place Eastern Canada between 0400 hours and 1235 hours Greenwich Mean Time on March 4, 1970.

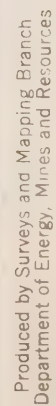
Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless, therefore, the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|----------------|---|
| AREA I | - between flight level 330 and flight level 490 between 0400 hours and 1050 hours Greenwich Mean Time on March 4, 1970. |
| SUB AREA I (A) | - between 6000 feet above mean sea level and flight level 330 between 0535 hours and 0820 hours Greenwich Mean Time on March 4, 1970. |
| SUB AREA I (B) | - between 6000 feet above mean sea level and flight level 270 between 0600 hours and 1235 hours Greenwich Mean Time on March 4, 1970. |
| AREA II | - between flight level 350 and flight level 410 between 0615 hours and 1015 hours Greenwich Mean Time on March 4, 1970. |
| SUB AREA II | - between 6000 feet above mean sea level and flight level 270 between 0635 hours and 1040 hours Greenwich Mean Time on March 4, 1970. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.


R. W. Goodwin,
Director, Civil Aviation.



NOTAM

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AIR TRAFFIC CONTROL

4/70
9th February

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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POSITIVE CONTROL ZONES

(Pending Publication in Designated Airspace Handbook)

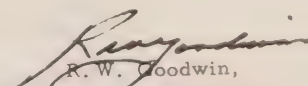
An increase in aircraft operations and significant wide variations in aircraft performance characteristics necessitated introducing in 1969 changes in flight procedures at the majority of DOT controlled airports. These changes became effective on the 26 June, 1969, in accordance with the provisions of the Air Navigation Order entitled Positive Control Zone Order.

During the past six months, the Department surveyed the effect of these changes and concluded that in the interest of safety it is essential that all control zones served by a DOT tower should be designated as positive control zones.

Accordingly the provisions of the Positive Control Zone Order will become effective within the following control zones on 26 June, 1970, and will be included in the Designated Airspace Handbook in addition to those control zones which were designated earlier.

Baie Comeau, P.Q.
Brandon, Manitoba
Fort St. John, B.C.
Fredericton, N.B.
Gander, Newfoundland
Thunder Bay, Ontario
Lethbridge, Alberta
Moncton, N.B.
North Bay, Ontario
Port Hardy, B.C.
Prince George, B.C.
Saint John, N.B.
Sept-Îles, P.Q.
St. Andrews, Manitoba
Sydney, N.S.
Torbay, Newfoundland
Wabush, Newfoundland
Whitehorse, Yukon Territory

Procedures remain unchanged for aircraft operating within control zones not served by control towers and within aerodrome traffic zones.


R. W. Goodwin,
Director, Civil Aviation.

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CANADA

Aerodromes - Land

5/70

12th February

DEPARTMENT OF TRANSPORT

AIR SERVICES

CIVIL AVIATION BRANCH

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**SPECIAL PROCEDURES AND FACILITIES
LAND AERODROMES**

(Superseding NOTAM 10/69, 19/69, 20/69, 22/69, and Supplementing and Amending NOTAM 23/68)

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SECTION 1 - WINNIPEG TO ATLANTIC OCEAN

Bagotville, Que.	Bagotville Climb Corridor Chart (Revision)
	Special Procedures (Revision)
Borden, Ont.	Operating Procedures (Addition)
Cartierville, Que.	Hours of Operation (Revision)
Chatham, N. B.	Primary Communication Frequencies (Revision)
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Ottawa International, Ont.	Operating Procedures (Revision)

SECTION I - WINNIPEG TO ATLANTIC OCEAN (Cont'd)

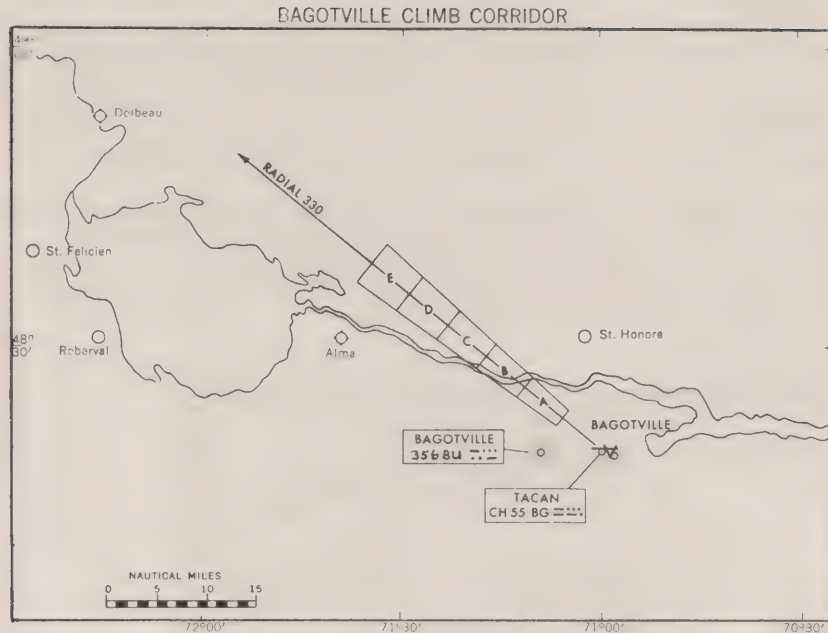
Toronto International, Ont.	Operating Procedures (Revision)
	Charter Flights (Addition)
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Windsor, Ont.	Aerodrome (Deletion)

SECTION 11 - WINNIPEG TO PACIFIC OCEAN

Brandon, Man.	Operating Procedures (Addition)
Calgary, Alta.	New Designation (Revision)
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SECTION 1 WINNIPEG TO ATLANTIC OCEAN

BAGOTVILLE, QUE.



SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within a radius of 52 statute miles of the military aerodrome at Bagotville, Que.

It is therefore strongly recommended in the interest of safety, that no aircraft be operated in accordance with the Visual Flight Rules within 52 miles of Bagotville, Que., unless:

BORDEN, ONT.

All operators and pilots are notified that extensive Pilot training and Precision Radar Controller training takes place at, and in the vicinity of, CFB Borden.

This training involves low flying, aerobatic practice, practical Radar vectoring, and precision Radar approaches as well as extensive circuit practice flying within the respective areas depicted on the accompanying chart.

(a) Aerobatic Area

This area is used during VFR weather conditions up to and including 6000 feet ASL.

BORDEN, ONT. (Cont'd)

(b) Radar Controller Training Area

This area is used up to an altitude of 4000 feet ASL during VFR weather conditions and occasionally when weather conditions are below VFR minima.

(c) Low Flying Area

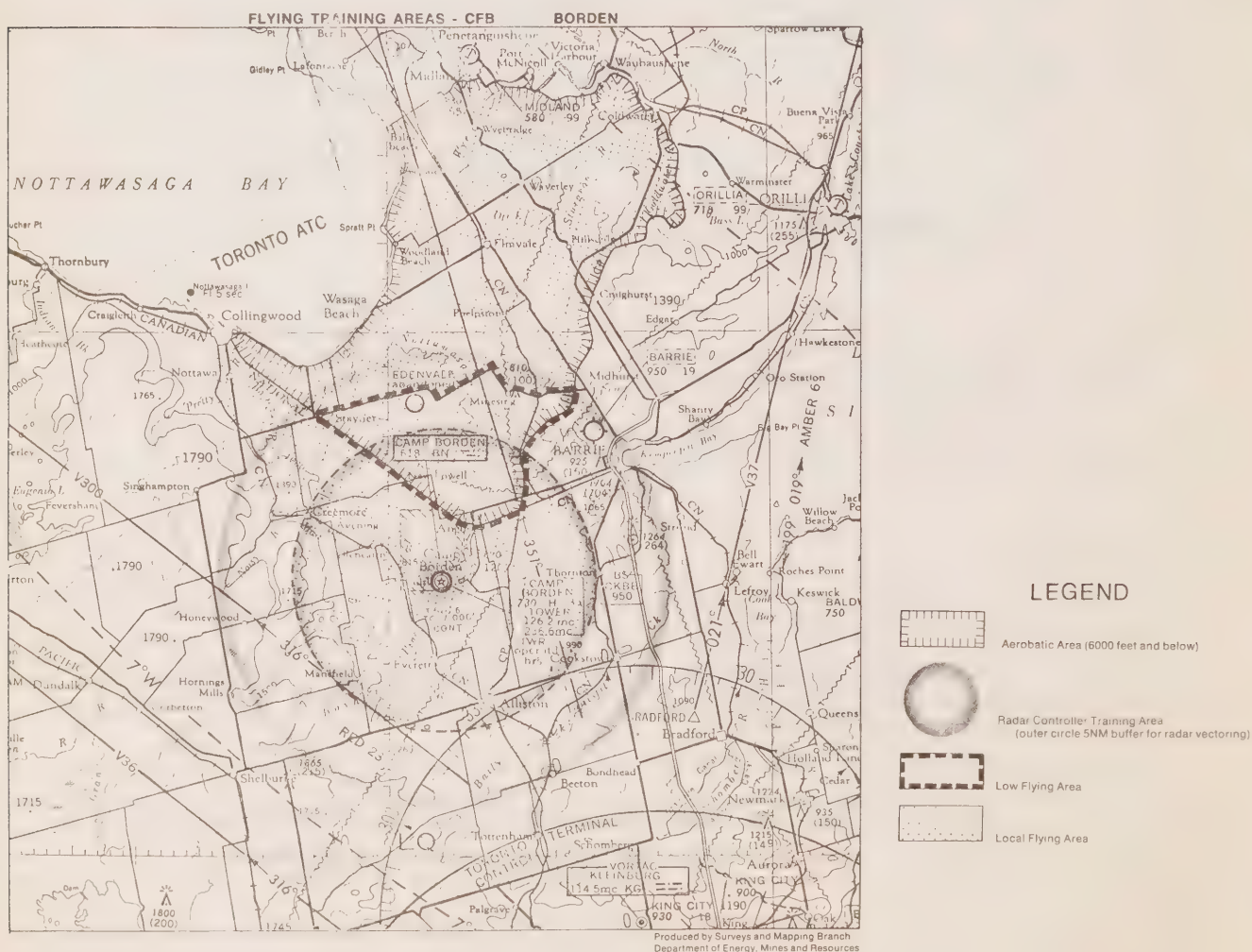
This area is used for low flying practice during VFR weather conditions.

(d) Local Flying Area

This area is used for local air work during VFR weather conditions.

The Toronto Area Control Centre will approve airspace reservations as required and will provide standard separation between the airspace reservations and IFR traffic.

In view of the extensive flying activity in these areas, VFR pilots are advised to exercise extreme caution when flying within these airspaces.



CARTIERVILLE, QUE.

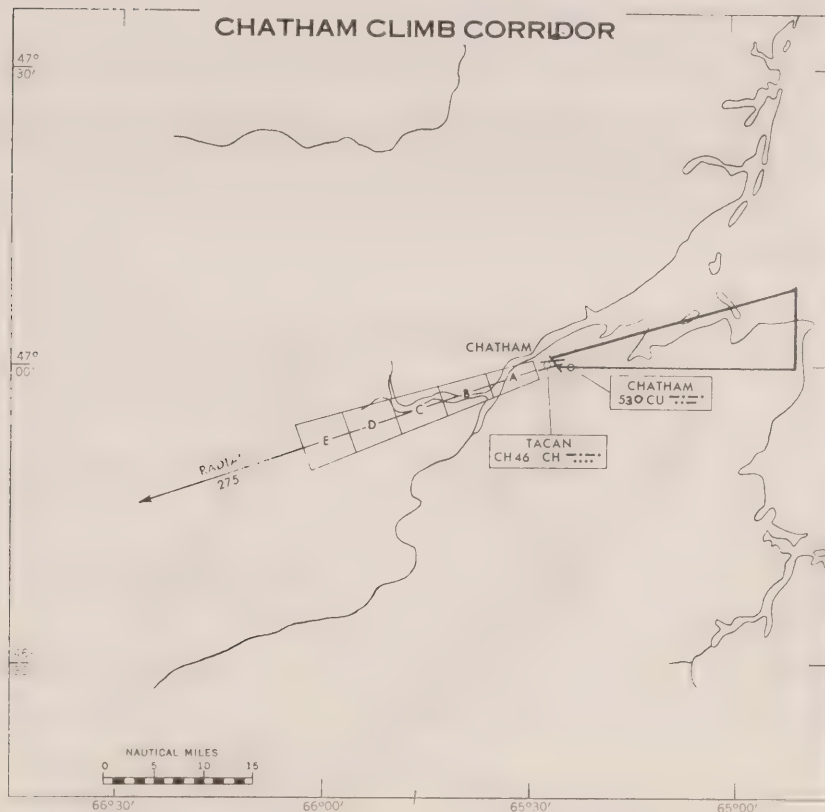
The hours of operation for Cartierville Tower are amended to read:

Effective April 26, 1970, the normal hours of operation for Cartierville Tower are 0700 hours local time to 1500 hours local time, Monday to Friday.

CHATHAM, N. B.

Primary communication frequencies are as follows:

Chatham Terminal Control - 123.7, 346.9
Chatham Tower - 126.2, 121.5 and 236.6



DEBERT, N. S.

Extensive IFR and VFR military air operations are conducted within a radius of 10 nautical miles of the Debert, N.S. Aerodrome from ground level to 2500 feet ASL at periodic intervals. A Class 1 NOTAM will be issued in advance of each operational period.

In the interest of safety, pilots of non-participating aircraft are cautioned to avoid this area when military air operations are in progress. It is suggested that pilots contact Halifax Terminal Control for traffic information prior to operating within the area.

HAMILTON, ONT.

Pilots must establish and maintain radio communication with the control tower prior to operating within the control zone. If unable to establish radio communication with the control tower, pilots must remain clear of the control zone unless prior approval for flight within the zone has been obtained from the control tower.

LAKEHEAD, ONT.

Lakehead airport has been redesignated Thunder Bay Airport; effective immediately.

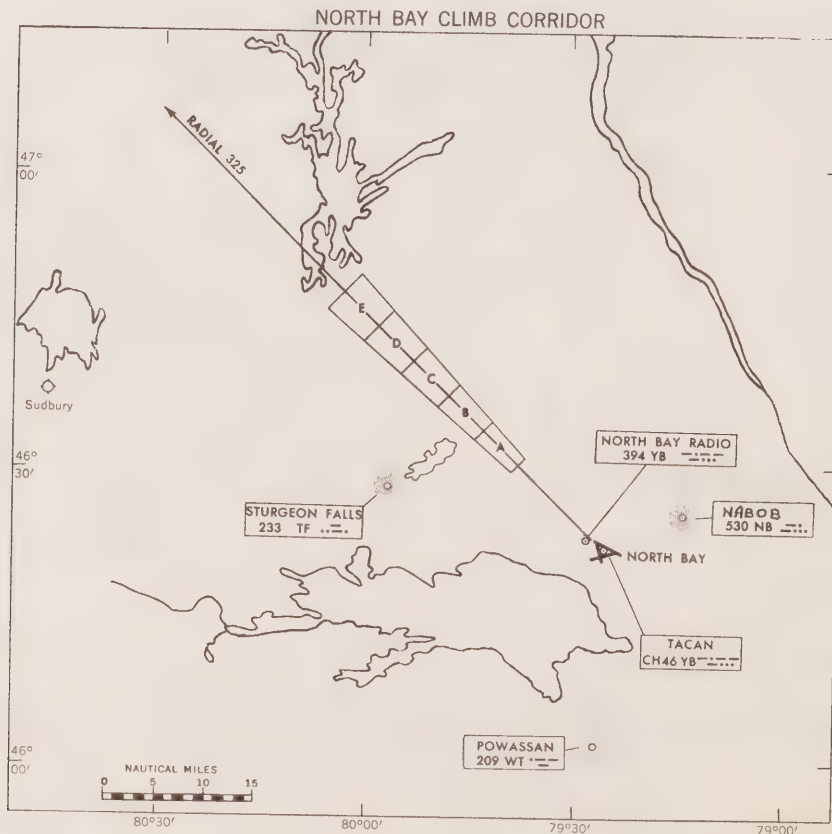
MONTREAL INT'L. AIRPORT, QUE.

The hours of operation for Cartierville Tower as outlined under the SPECIAL NOTE for Montreal Airport is amended to read:

Effective April 26, 1970, the normal hours of operation for Cartierville Tower are 0700 hours local time to 1500 hours local time, Monday to Friday.

The paragraph on AIRCRAFT NOISE MONITORING is amended to read:

Fully automatic noise monitoring equipment has been installed on the approaches to runways 06L, 06R and 24L. In addition, mobile equipment is available for monitoring aircraft noise in any area around the airport.

NORTH BAY, ONT.

OTTAWA INTERNATIONAL AIRPORT, ONT.

The whole item concerning Ottawa International Airport on pages 15 and 16 of NOTAM 23/68 is superseded by the following:

Pilots must establish and maintain radio communication with the Ottawa Control Tower prior to operating within the Ottawa Control Zone.

The following portion of this NOTAM is applicable to all turbo-jet aircraft except as otherwise indicated.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

In order to reduce the level of noise and disturbance created by aircraft over residential areas located near the airport, it has been found necessary to introduce the procedures and restrictions shown below. Strict application of these instructions by all aircraft captains during take-off and landing manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

Preferential Runways

Subject to unusual wind or weather conditions, runways will be selected in accordance with the following factors:

- (i) the physical condition of the runway surface; i.e., dry, wet, ice covered, sanded and braking action;
- (ii) the effective crosswind component shall not exceed 15 knots;
- (iii) the effective downwind component shall not exceed 5 knots.

CALM WIND

PREFERENCE I

Primary Departure Runway	14
Primary Arrival Runway	25
Secondary Arrival Runways	07, 14, 32

EAST QUADRANTAL WIND

PREFERENCE II

Primary Departure Runway	07
Primary Arrival Runway	32
Secondary Arrival Runways	07, 14

WEST QUADRANTAL WIND

PREFERENCE III

Primary Departure Runway	25
Primary Arrival Runway	32
Secondary Arrival Runways	25, 14

NORTH QUADRANTAL WIND

PREFERENCE IV

Primary Departure Runway	32
Primary Arrival Runway	32
Secondary Arrival Runways	25, 07

Departure Procedures

Noise abatement climb techniques as approved by the Company or recommended by the aircraft manufacturer shall be used by all aircraft until reaching at least 2,500 feet ASL. However, when a preferential runway is being used this procedure is optional at the discretion of the aircraft captain.

- (a) Runways 25 and 32 - noise abatement climb; climb on runway heading to 3,000 feet ASL before proceeding on course.
- (b) Runways 07 and 14 - preferential runways; climb on runway heading to 3,000 feet ASL before proceeding on course.

Arrival Procedures - VFR

The minimum circuit height shall be 2,500 feet ASL, and aircraft are to maintain this altitude as long as practicable before commencing final descent to the runway. During final approach every effort shall be made to remain on or slightly above the approach slope angle of the ILS, VASIS, or PAR.

- (a) Turns on to final approach shall be completed not less than 6 nautical miles from the runway.
- (b) The use of thrust and the selection of gear and flap settings shall, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement.

TRAINING FLIGHTS

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 07, 14, and 22. Airport elevation 374 feet ASL. Circuit height 1,500 feet ASL.

All training flights intending to operate within the confines of the Ottawa Control Zone are restricted to the following hours of operation:

- (a) single-engine aircraft: from 0815 to 2359 hours local time;
- (b) multi-engine jet aircraft: from 0800 to 2200 hours local time daily except Sundays when training flights are not permitted, and, in addition:
- (c) VFR training circuits will not be permitted on runways 14 and 32 when weather conditions necessitate that circuits be flown below 1,500 feet ASL; and
- (d) practice runway procedures to runway 14 are not permitted.

Take-Off

Runways 32 and 25

When weather conditions permit, aircraft are to climb on runway heading to 1500 feet ASL before initiating a turn, unless otherwise authorized by Air Traffic Control.

Runway 22

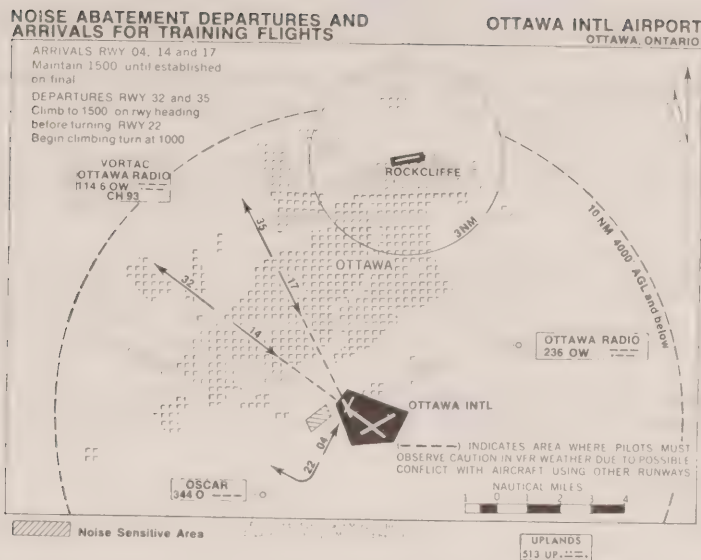
Departing aircraft must initiate a climbing turn at 1,000 feet ASL in order to remain clear of aircraft operating from runway 25.

Landing

Runways 04, 14 and 17

When weather conditions permit, aircraft are to maintain 1,500 feet ASL until established on final approach to the runway, unless otherwise authorized by Air Traffic Control.

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.



TORONTO INTERNATIONAL AIRPORT, ONT.

The whole item concerning Toronto International Airport on pages 18 and 19 of NOTAM 23/68 is superseded by the following:

Pilots must establish and maintain radio communication with the Toronto Control Tower prior to operating within the Toronto Control Zone.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 14, 23L, 23R and 28.

The following portion of this NOTAM is applicable to all turbo-jet aircraft.

The use of Toronto International Airport by turbo-jet aircraft for technical stops or charter operations is not permitted between 2300 and 0700 hours local time.

The introduction of new scheduled flights using turbo-jet aircraft between the hours of midnight and 0700 hours local time is not permitted.

NOISE ABATEMENT - ARRIVAL AND DEPARTURE PROCEDURES

In order to reduce the level of noise and disturbance created by aircraft over residential areas located near the airport, it has been found necessary to introduce the procedures shown below. Strict application of these instructions by all aircraft captains during take-off and landing manoeuvres will assist in reducing aircraft noise in the vicinity of the airport.

Preferential Runways

Subject to unusual wind or weather conditions, runways will be selected in accordance with the following factors:

- (i) the physical condition of the runway surface, i.e., dry, wet, ice covered, sanded and braking action.
- (ii) the effective crosswind component shall not exceed 15 knots.
- (iii) the effective downwind component shall not exceed 5 knots.

Whenever practicable, Air Traffic Control will assign runways in accordance with the following:

CALM WIND

PREFERENCE I

Arrival Runway	14
Departure Runways	23L, 23R, 28

PREFERENCE II

Arrival Runways	05R and 05L
Departure Runways	32, 05L and 05R

NORTH QUADRANTAL WIND

PREFERENCE I

Arrival Runways	05R, 05L
Departure Runways	32, 05R, 05L

PREFERENCE II

Arrival Runway	32
Departure Runways	32, 05R, 05L

SOUTH QUADRANTAL WIND

PREFERENCE I

Arrival Runway	14
Departure Runways	23L, 23R, 14

PREFERENCE II

Arrival Runways	23L, 23R
Departure Runways	23L, 23R, 14

Departure Procedures

Noise abatement climb procedures are not required at Toronto International Airport. Instead, aircraft are required to climb on runway heading at their maximum allowable rate of climb in order to be at 3,000 feet ASL as soon as possible after take-off.

Arrival Procedures - VFR

The minimum circuit height shall be 2,500 feet ASL and all aircraft are to maintain this altitude as long as practicable before commencing final descent to the runway. During final approach every effort shall be made to remain on or slightly above the approach slope angle of the ILS, VASIS, or PAR.

- (a) Turns on to final approach shall be completed not less than 6 NM from the runway. For runway 32, the turn onto final approach shall be completed over Lake Ontario prior to crossing the shoreline inbound.
- (b) The use of thrust and the selection of gear and flap settings shall, consistent with safety of operations, be such as to give the best possible performance with respect to noise abatement.

NOTWITHSTANDING THE FOREGOING PROCEDURES OR ANY INSTRUCTIONS RELATING THERETO ISSUED BY AIR TRAFFIC CONTROL, DECISIONS AFFECTING THE SAFE OPERATION OF THE AIRCRAFT SHALL REMAIN THE CAPTAIN'S RESPONSIBILITY.

CHARTER FLIGHTS AND OTHER AIRCRAFT OPERATIONS REQUIRING THE USE OF INTERNATIONAL INSPECTION FACILITIES

Serious congestion occurs at Toronto International Airport, particularly during the summer months and on long holiday weekends, due to the large number of scheduled and charter flights operating during these periods.

Every effort must be made to schedule charter flights to arrive during the preferred period 0830 to 1330 hours local time. The congested traffic period between 1400 and 2100 hours local time should be avoided if at all possible. This applies most particularly to the months of June to October, and Fridays and Sundays during the whole year.

The Airport Manager is to be advised of all charter operations, including those of regular scheduled operators, as far in advance as possible. Two months prior notice is recommended.

WATERLOO-WELLINGTON, ONT.

Pilots must establish and maintain radio communication with the control tower prior to operating within the control zone. If unable to establish radio communication with the control tower, pilots must remain clear of the control zone unless prior approval for flight within the zone has been obtained from the control tower.

WINDSOR, ONT.

This item is to be deleted as the information is now contained in the Designated Airspace Handbook.

As indicated in NOTAM 15/69, Windsor Airport has been designated as a Positive Control Zone.

SECTION 11 WINNIPEG TO PACIFIC OCEAN

BRANDON, MAN.

Right-hand circuits are in effect for runways 20, 26 and 32.

CALGARY, ALTA.

Calgary Airport, Alta. has been designated as an International Airport effective July 1st, 1969.

COLD LAKE, ALTA.

Primary communication frequencies are as follows:

Cold Lake Tower - 121.5 and 126.2

COMOX, B. C.

SPECIAL PROCEDURES - Extensive day and night military air operations are conducted within the Comox Control Zone (10 NM miles radius of the aerodrome, Comox, B.C.).

Primary radio frequencies to be used for communicating with Comox Control Tower are as follows:

126.2 and 122.5R.

EDMONTON INDUSTRIAL AIRPORT, ALTA.

The item in NOTAM 23/68 covering the Edmonton Industrial Airport is cancelled in its entirety. The following is now in effect.

Pilots must establish and maintain radio communication with the control tower prior to operating within the control zone. If unable to establish radio communication with the control tower, pilots must remain clear of the control zone unless prior approval for flight within the zone has been obtained from the control tower.

Aircraft maximum gross weight restricted to 120,000 pounds. Runway 03-21 restricted to daylight operations only. To minimize noise disturbance, the procedures below should be followed unless otherwise directed by ATC.

- (1) Runway 16-34 to be used during calm (no wind) conditions.
- (2) Runway 11: Aircraft gross weight for take-off restricted to 12,500 pounds.
- (3) Runway 29: Aircraft gross weight for landing restricted to 30,000 pounds between 2100 and 0700 hours MST.
- (4) Simulated Instrument Approach Procedures: No descent below published minimum altitude is permitted unless a full stop landing is intended. Practice ILS missed approach is to be commenced at the middle marker.

NOTE: Right hand circuits are in effect for runways 21, 29 and 34.

EDSON, ALTA.

Right hand circuits are in effect for runway 07.

KIMBERLEY, B.C.

This entry is deleted in its entirety. The area formerly known as Kimberly Aerodrome, is now a residential development.

MOOSE JAW, SASK.

Unless otherwise authorized by Air Traffic Control, right hand circuits are in effect for runways 28R and 10R.

PONOKA, ALTA.

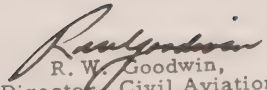
Right hand circuits are in effect for runway 16.

PUNTZI MOUNTAIN, B.C.

This entry is deleted in its entirety.

SPRINGBANK, ALTA.

Right hand circuits are in effect for runways 16 and 25.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM

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CANADA

6/70

16th February

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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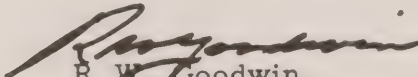
HAZARDS TO AIR NAVIGATION

UNITED STATES AIR FORCE - LOW LEVEL TRAINING FLIGHTS

Effective April 1st, 1970 until approximately September 30th, 1970, United States Air Force low level training flights over Canada (Saskatoon OB-69) will penetrate Canadian Airspace from bases located in the United States and proceed via Regina along the route indicated.

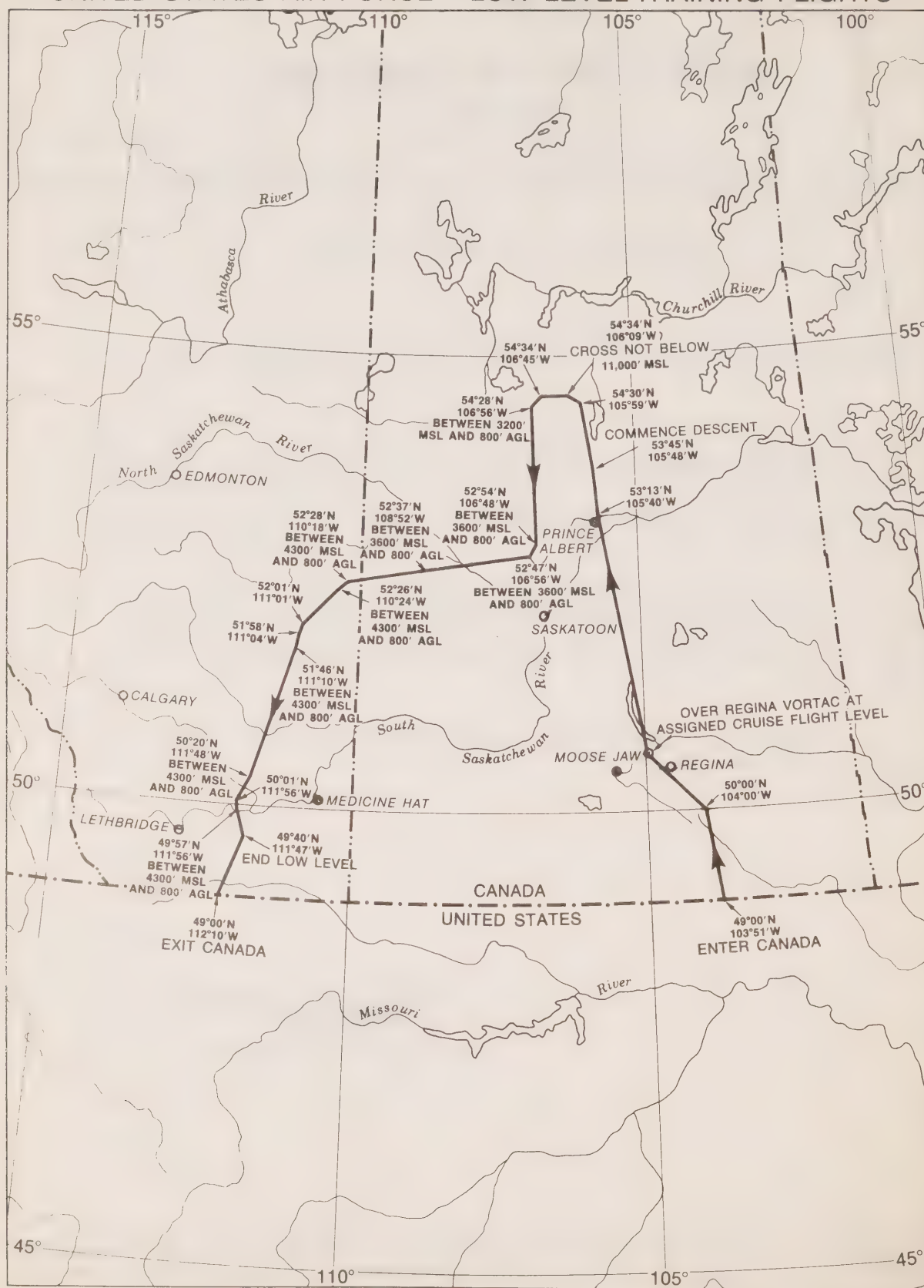
The aircraft will follow the route (4 NM either side of the centre line) and be flown at the altitudes shown on the accompanying chart. The training flights may continue each day of the week on a 24-hour basis.

Pilots are urged to exercise caution when flying in the vicinity of the route shown.



R. W. Goodwin,
Director, Civil Aviation.

UNITED STATES AIR FORCE - LOW LEVEL TRAINING FLIGHTS



NOTAM



Air Traffic Control

7/70

23rd February

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

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AIR TRAFFIC CONTROL SPECIAL PROCEDURES

(Supplementing and Amending NOTAM 26/69)
(Superseding NOTAM 10/68)

Edmonton Arctic Control Area

Effective April 2, 1970, Canadian controlled airspace at Flight Level 290 and above will be extended to the North Geographic Pole. The new control area will be designated the Edmonton Arctic Control Area (ACA). On the above effective date the Edmonton Upper Flight Information Region is cancelled.

The Edmonton Arctic Control Area is designated as the navigable airspace at Flight Level 290 and above within the following prescribed area and within which air traffic control service is provided. Commencing at the North Geographic Pole; thence to 69°00'N, 141°00'W; to 72°00'N, 129°00'W; to 72°00'N, 92°05'W; to 74°00'N, 68°18'W; to 76°00'N, 76°00'W; to 78°00'N, 75°00'W; to 82°00'N, 60°00'W; to the point of beginning. The area is depicted on the accompanying chart.

Air Traffic Control Service is provided from the Edmonton Area Control Centre to all aircraft operating within the Edmonton Arctic Control Area.

All flights operating within the Edmonton Arctic Control Area are requested to comply with the following flight planning, reporting and communication procedures.

Flight Planning Procedures

Flight plans should be filed in accordance with ICAO flight planning procedures. The route of flight should be defined by listing, in latitude and longitude, sufficient geographical points to adequately portray the intended track, including the significant reporting points which are required and which are detailed below.

Position Reporting

Unless otherwise requested by Air Traffic Control, flights operating within the Edmonton Arctic Control Area shall make position reports in accordance with ICAO AIREP format, including Section 3.

Three significant meridians of longitude have been selected as position reporting lines for the Edmonton Arctic Control Area. These position reporting lines are coincident with the 140°W, 115°W and 60°W meridians.

- (i) Flights traversing the ACA shall report the point at which the position lines of the 140°W, 115°W and 60°W meridians are crossed. If crossing the ACA North of 85°N latitude the 115°W position report is not required.
- (ii) Flights which do not cross the 60°W meridian on entry or prior to entry within the ACA shall report their point of entry into the ACA.

- (iii) Flights which do not cross the 140°W meridian after entry within the ACA shall report their point of entry into the ACA.
- (iv) Flights which do not cross the 60°W meridian on leaving or after leaving the ACA shall report their point of exit from the ACA.
- (v) Flights which do not cross the 140°W meridian prior to leaving the ACA shall report their point of exit from the ACA.
- (vi) Generally northbound or southbound flights which will not cross the significant position reporting lines shall report their points of entry and exit from the ACA.

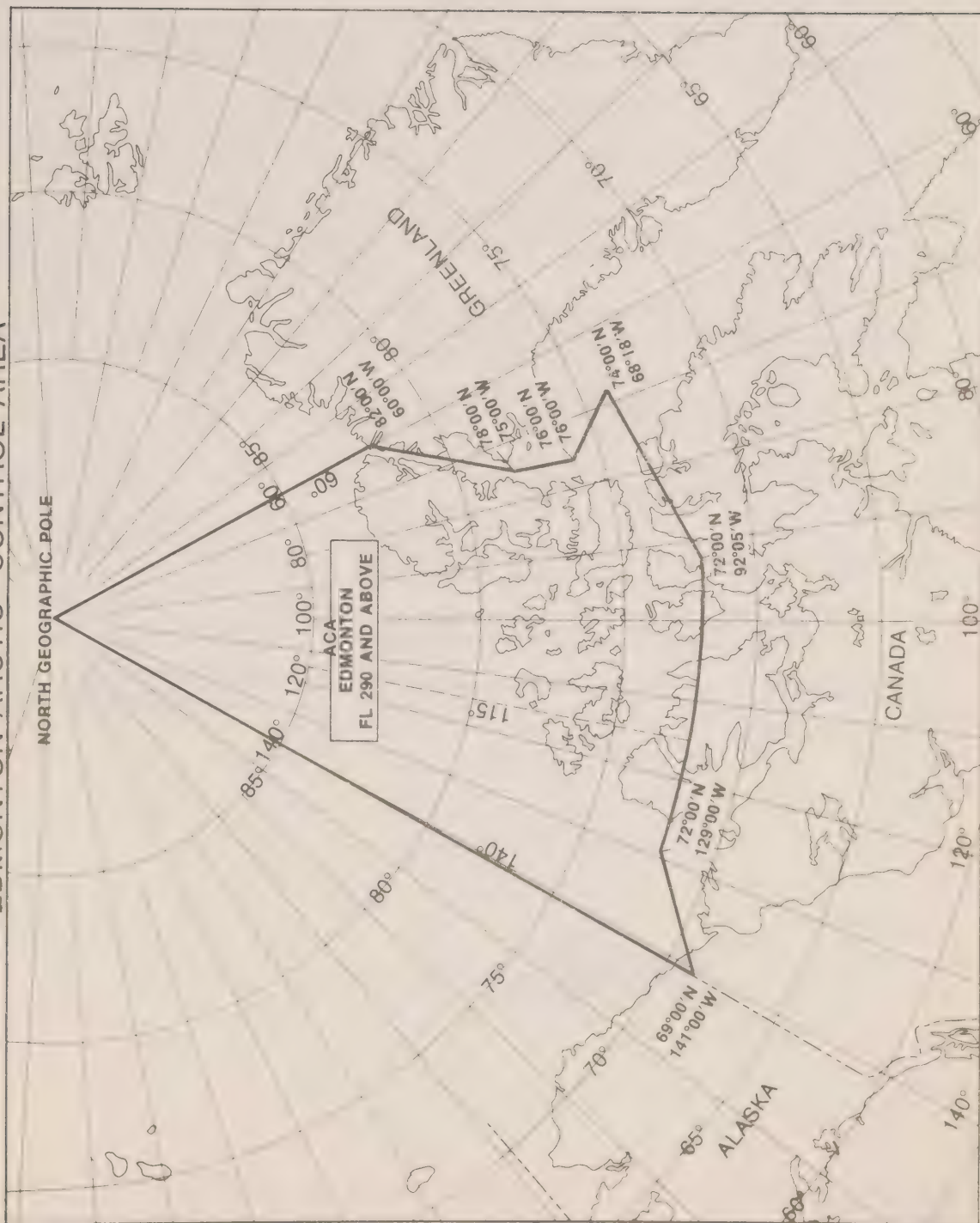
Air/Ground Communications

The Cambridge Bay Aeradio Station is the primary air/ground communication station serving the Edmonton Arctic Control Area.

Communication should be established with Cambridge Bay on one of the international high frequencies of 5624, 8913.5 or 13328 kHz on entry or prior to entry into the area and a listening watch on this station maintained while in the area, unless otherwise instructed. If communication cannot be established with Cambridge Bay, contact should be established through Resolute, Edmonton, Frobisher, Churchill or other International Stations on published frequencies.


R. W. Goodwin,
Director, Civil Aviation.

EDMONTON ARCTIC CONTROL AREA



NOTAM



8/70
2nd March

DEPARTMENT OF TRANSPORT

AIR SERVICES
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TEMPORARY RESTRICTED AIRSPACE

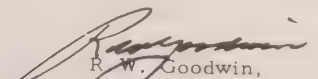
A large scale military air exercise to be known as Snowtime 70-6-W will take place over Western Canada between 0230 hours and 1130 hours Greenwich Mean Time on May 13, 1970.

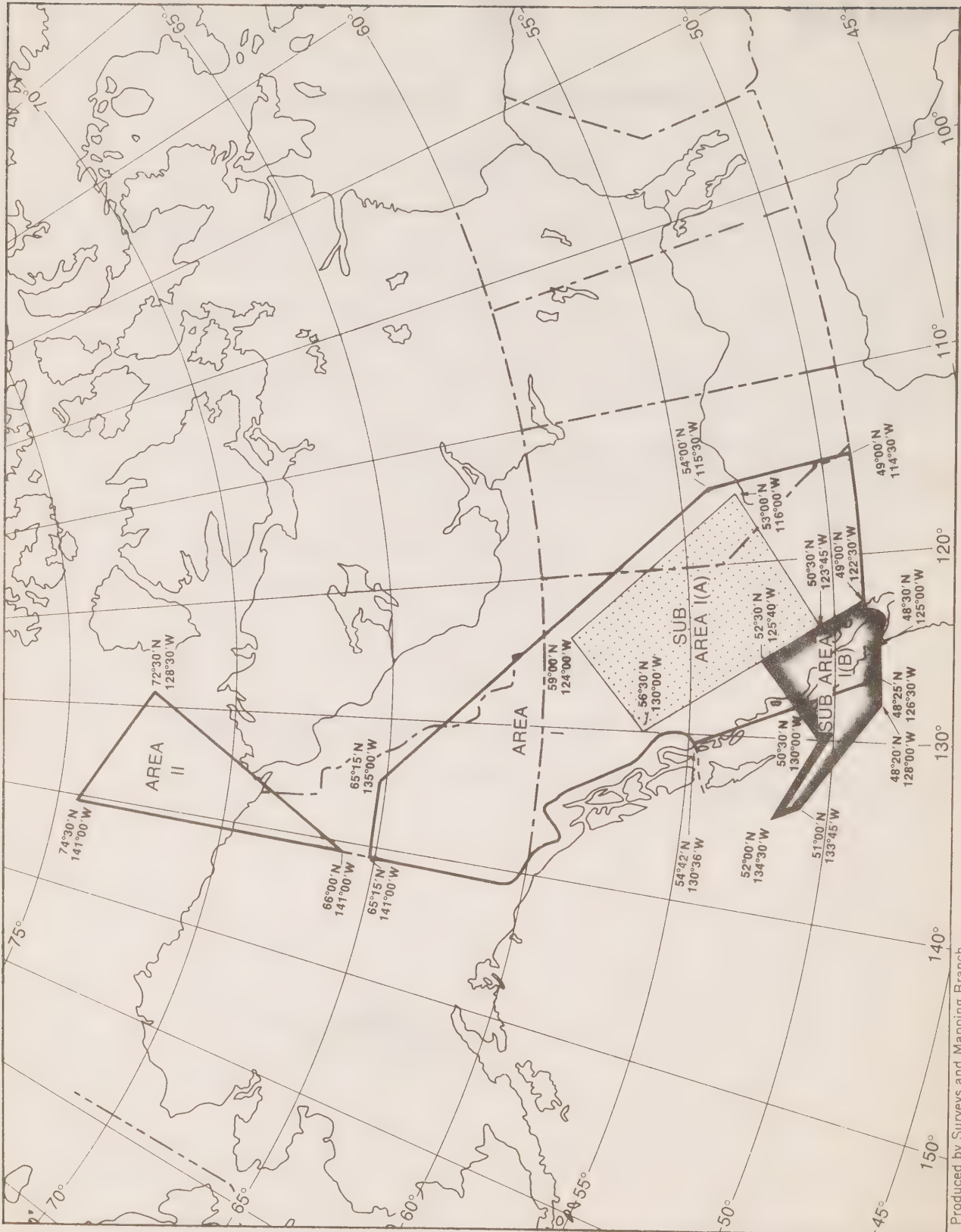
Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown on May 13, 1970 in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- AREA I
 - between flight level 270 and flight level 430 between 0445 hours and 1130 hours Greenwich Mean Time.
- SUB AREA I (A)
 - between 9000 feet above mean sea level and flight level 270 between 0700 hours and 1000 hours Greenwich Mean Time.
- SUB AREA I (B)
 - below flight level 180 between 0700 hours and 1020 hours Greenwich Mean Time.
- AREA II
 - between flight level 260 and flight level 430 between 0230 hours and 0440 hours Greenwich Mean Time.

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.


R. W. Goodwin,
Director, Civil Aviation.



NOTAM



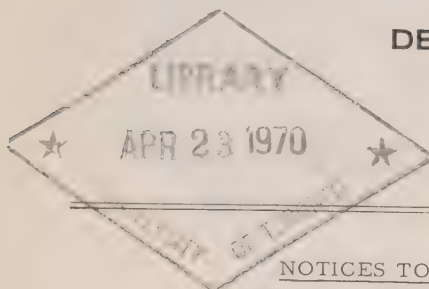
Summary

9/70
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DEPARTMENT OF TRANSPORT

AIR SERVICES
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5/68 26/68	6/69 21/69 29/69	2/70 7/70
15/68 29/68	13/69 25/69	4/70 8/70
23/68 30/68	17/69 26/69	5/70 9/70
31/68		6/70

SPECIAL NOTICES

10/68 superseded by 7/70
10/69 superseded by 5/70
18/69 time expired - December 31, 1969
19/69 superseded by 5/70
20/69 superseded by 5/70
22/69 superseded by 5/70
30/69 time expired - February 11, 1970
1/70 superseded by 9/70
3/70 time expired - March 4, 1970

GENERAL

9/70 Summary

HAZARDS AND OBSTRUCTIONS

15/68 Hazards to Air Navigation
26/68 Hazards to Air Navigation (Supplements and Amends 15/68)
29/68 Hazards to Air Navigation (Supplements and Amends 15/68)
31/68 Hazards to Air Navigation - Military Flying Activity - North Pacific - SEA LION
13/69 Hazards to Air Navigation (Supplements and Amends 15/68)
2/70 Hazards to Air Navigation - Tactical Air Fighting Areas - Bagotville, P.Q.
6/70 United States Air Force - Low Level Training Flights

CANADIAN AIRSPACE CHARACTERISTICS

5/68 Fraser Canyon VHF Communications Service
17/69 Controlled and Uncontrolled Airspace

AERODROMES - LAND

23/68 Special Procedures and Facilities
5/70 Special Procedures and Facilities (Supplements and Amends 23/68)

AERODROMES - WATER

30/68 Nelson River - Norway House, Manitoba
6/69 Rabbit Lake - Kenora, Ont.
25/69 Special Procedures and Facilities - Waverley, Nova Scotia

AIR TRAFFIC CONTROL

26/69 Air Traffic Control Procedures
29/69 Transmission of Meteorological Information to Arriving Aircraft
4/70 Positive Control Zone
7/70 Arctic Control of Airspace at FL 290 and Above

RADIO

21/69 Implementation of New Aeronautical Mobile High Frequency Assignment
Plan - Canadian International Air/Ground Stations

RESTRICTED AIRSPACE

8/70 Temporary Restricted Airspace - Snowtime 70-6-W effective between
0230 hours and 1130 hours GMT on May 13th, 1970

NOTE: The latest amendment to the Aeronautics Act/Air Regulations book is No. 11
dated 24/3/69.

The latest amendment to the Air Navigation Orders book is No. 25 dated
20/1/70.

WHERE TO FIND IT

WATER AERODROME SUPPLEMENT (April 1970 Edition)	\$1.00
CANADIAN AERODROME DIRECTORY (April 1970 Edition)	.75
DESIGNATED AIRSPACE HANDBOOK (April 2, 1970 Edition) (reissued every 56 days with one amendment after 28 days)	yearly subscription 2.50 single issue .50

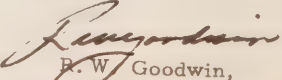
Your attention is drawn to Information Circular 0/5/70, REVISED SCHEDULE OF EFFECTIVE
DATES FOR FLIGHT INFORMATION publications, which outlines the change-over of Flight
Information Publications from 35 days to intervals of 28 days. This change-over includes:

Radio Navigation Charts - ICAO (LE, HE, T and SID charts)

These publications are available from:

Department of Energy, Mines and Resources
Map Distribution Office
615 Booth Street
Ottawa 4, Ontario, Canada

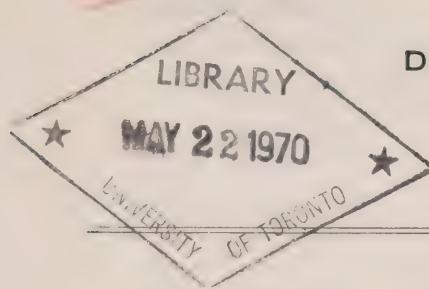
NOTE: Your cheque or money order should be made payable to the
Receiver General of Canada and should accompany your request.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Air Traffic Control

10/76
6th April

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

Positive Control Zones
(Superseding NOTAM 4/70 and
Pending publication in Canada Air Pilot)

Air Navigation Order Series V No. 21 requires that pilots establish and maintain radio communication with the control tower prior to operating within a positive control zone. This requirement does not apply during periods in which the control tower is not in operation. Procedures remain unchanged for aircraft operating within control zones not designated as positive control zones and within aerodrome traffic zones.

The control zones which have been, or will be designated as Positive Control Zones are listed below, together with zone limits and tower hours of operation. Generally all control zones served by Department of Transport towers can be expected to be designated Positive Control Zones.

In the table below: (D) under Tower Hours of Operation means "daily". Where Daylight Saving Time is in effect during the summer months, the tower hours of operation shown will be one hour earlier.

The zones immediately under which is shown the date (26 June 70) will be designated Positive Control Zones effective 26 June 1970.

An asterisk "*" indicates that the horizontal limits shown are approximate. For more accurate limits see Designated Airspace Handbook.

<u>Positive Control Zone</u>	<u>Horizontal Limits</u>	<u>Vertical Limits</u>	<u>Tower Hours of Operation(GMT)</u>
Within Vancouver Flight Information Region			
Abbotsford, B.C. (26 June 70)	*Airspace 5NM either side of centreline of Runway 06/24 to 5 NM east and 10 NM west	4000' AGL	1630-0800 (D)
Comox, B.C.	10NM radius	6000' AGL	24 hours
Penticton, B.C.	5 NM radius	4000' AGL	1600-0600 (D)
Pitt Meadows, B.C.	3 NM radius	4000' AGL	1600-0800 (D)
Kamloops, B.C.	5 NM radius	4000' AGL	1500-0600 (D)
Port Hardy, B.C. (26 June 70)	5 NM radius	4000' AGL	1500-0100 except Sunday
Prince George, B.C. (26 June 70)	5 NM radius	4000' AGL	1430-0530 (D)
Vancouver Int'l, B.C.	5 NM radius	4000' AGL	24 hours
Victoria Int'l, B.C.	*Airspace 5 NM either side of centreline of Runway 08/26 extending to USA Border east and 5 NM radius	4000' AGL	24 hours

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

<u>Positive Control Zone</u>	<u>Horizontal Limits</u>	<u>Vertical Limits</u>	<u>Tower Hours of Operation (GMT)</u>
Within Edmonton Flight Information Region			
Calgary Int'l, Alta.	10 NM radius	4000' AGL	24 hours
Cold Lake, Alta.	10 NM radius	6000' AGL	24 hours
Edmonton Industrial, Alta	*5 NM radius	4000' AGL	24 hours
Edmonton Int'l, Alta	10 NM radius of air- port, 2.5 NM radius of Edmonton VOR, and 2.5 NM either side of direct track between AP and VOR	6000' AGL	24 hours
Fort St. John, B.C.	10 NM radius	4000' AGL	1400-0600 (D)
(26 June 70)			
Lethbridge, Alta.	10 NM radius	4000' AGL	1400-0600 (D)
(26 June 70)			
Namoo, Alta.	*5 NM radius	6000' AGL	24 hours
Springbank, Alta.	5 NM radius	4000' AGL	1500-0500 (D)
Whitehorse, Y. T.	10 NM radius	4000' AGL	1500-0700 (D)
(26 June 70)			
Within Winnipeg Flight Information Region			
Brandon, Man.	*10 NM radius	4000' AGL	1500-2300 (D)
(26 June 70)			
Gimli, Man.	*25 NM radius	6000' AGL	1300-0500 Mon. thru Fri.
Moose Jaw, Sask.	10 NM radius	6000' AGL	1400-0600 (D)
Portage, Man.	10 NM radius	6000' AGL	24 hours
Regina Municipal, Sask.	10 NM radius	4000' AGL	1300-0530 (D)
Rivers, Man.	5 NM radius	6000' AGL	1400-2300 Mon. thru Fri.
Saskatoon, Sask.	5 NM radius	4000' AGL	1345-0545 (D)
St. Andrews, Man.	*4 NM radius	2000' <u>ASL</u>	1500-2300 (D)
(26 June 70)			
Thunder Bay, Ont.	5 NM radius	4000' AGL	1300-0500 (D)
(26 June 70)			
Winnipeg Int'l, Man.	*9 NM radius	5000' <u>ASL</u>	24 hours
Within Toronto Flight Information Region			
Borden, Ont.	10 NM radius	6000' AGL	1300-2200 Mon. thru Fri.
Buttonville, Ont.	3 NM radius	2000' <u>ASL</u>	1245-0400 (D)
Downsview, Ont.	3 NM radius	2000' <u>ASL</u>	1300-0300 (D)
Hamilton, Ont.	5 NM radius	4000' AGL	1300-0400 (D)
London, Ont.	10 NM radius	4000' AGL	1200-0500 (D)
North Bay, Ont.	10 NM radius	4000' AGL	1230-0400 (D)
(26 June 70)			
Oshawa, Ont.	5 NM radius	4000' AGL	1300-0400 (D)
Toronto Int'l, Ont.	5 NM radius	2000' <u>ASL</u>	24 hours
Toronto Island, Ont.	3 NM radius	2000' <u>ASL</u>	1100-0300 Mon thru Fri. 1100-0200 Sat. and Sun.
Trenton, Ont.	10 NM radius	6000' AGL	24 hours
Val D'Or, Que.	10 NM radius	6000' AGL	24 hours
Waterloo-Wellington, Ont.	5 NM radius	4000' AGL	1200-0300 (D)
Windsor, Ont.	*10 NM radius	2600' <u>ASL</u>	1045-0345 (D)


<u>Positive Control Zone</u>	<u>Horizontal Limits</u>	<u>Vertical Limits</u>	<u>Tower Hours of Operation (GMT)</u>
Within Montreal Flight Information Region			
Bagotville, Que.	10 NM radius (Cartierville Tower operates within the Montreal Int'l Positive Control Zone)	6000' AGL	24 hours
Montreal Int'l, Que.	10 NM radius	4000' AGL	24 hours
Ottawa Int'l, Ont.	*10 NM radius	4000' AGL	24 hours
Quebec, Que.	*10 NM radius	4000' AGL	24 hours
St. Hubert, Que.	*5 NM radius	4000' AGL	24 hours

Within Moncton Flight Information Region

Baie Comeau, Que. (26 June 70)	10 NM radius	4000' AGL	1300-0500 (D)
Chatham, N.B.	10 NM radius	6000' AGL	24 hours
Fredericton, N.B. (26 June 70)	*5 NM radius	4000' AGL	1215-0330 (D)
Goose, Nfld.	25 NM radius	6000' AGL	24 hours
Greenwood, N.S.	5 NM radius	6000' AGL	24 hours
Halifax Int'l, N.S.	5 NM radius	4000' AGL	24 hours
Moncton, N.B. (26 June 70)	5 NM radius	4000' AGL	24 hours
Saint John, N.B. (26 June 70)	10 NM radius	4000' AGL	1130-0300 (D)
Sept Iles, Que. (26 June 70)	5 NM radius	4000' AGL	1300-0500 (D)
Shearwater, N.S.	*5 NM radius	6000' AGL	24 hours
Summerside, P.E.I.	*10 NM radius of Charles Point (4 NM north of airport)	6000' AGL	24 hours
Sydney, N.S. (26 June 70)	*5 NM radius	4000' AGL	1215-0345 (D)
(Wabush, Nfld. is not proposed to be designated a Positive Control Zone at this time.)			

Within Gander Flight Information Region

Argentia, Nfld.	5 NM radius	6000' AGL	24 hours
Gander Int'l, Nfld. (26 June 70)	8 NM radius	4000' AGL	24 hours
Torbay, Nfld. (26 June 70)	5 NM radius	4000' AGL	24 hours


R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Government
Public Works
Hazards and Obstructions

11/70
13th April

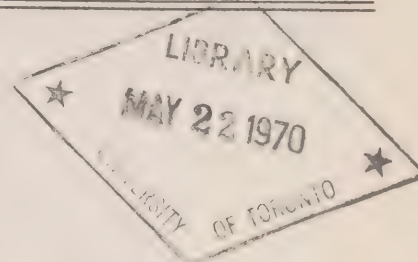
DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 1

(Supplementing NOTAM 6/70)

UNITED STATES AIR FORCE -
LOW LEVEL TRAINING FLIGHTS



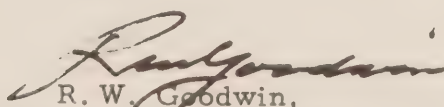
To obtain same day information concerning military activity along the United States Air Force - Low Level Training Flights route depicted in NOTAM 6/70, pilots may telephone a local Department of Transport Aeradio Station, or may call collect to any of the following Air Traffic Control Units:

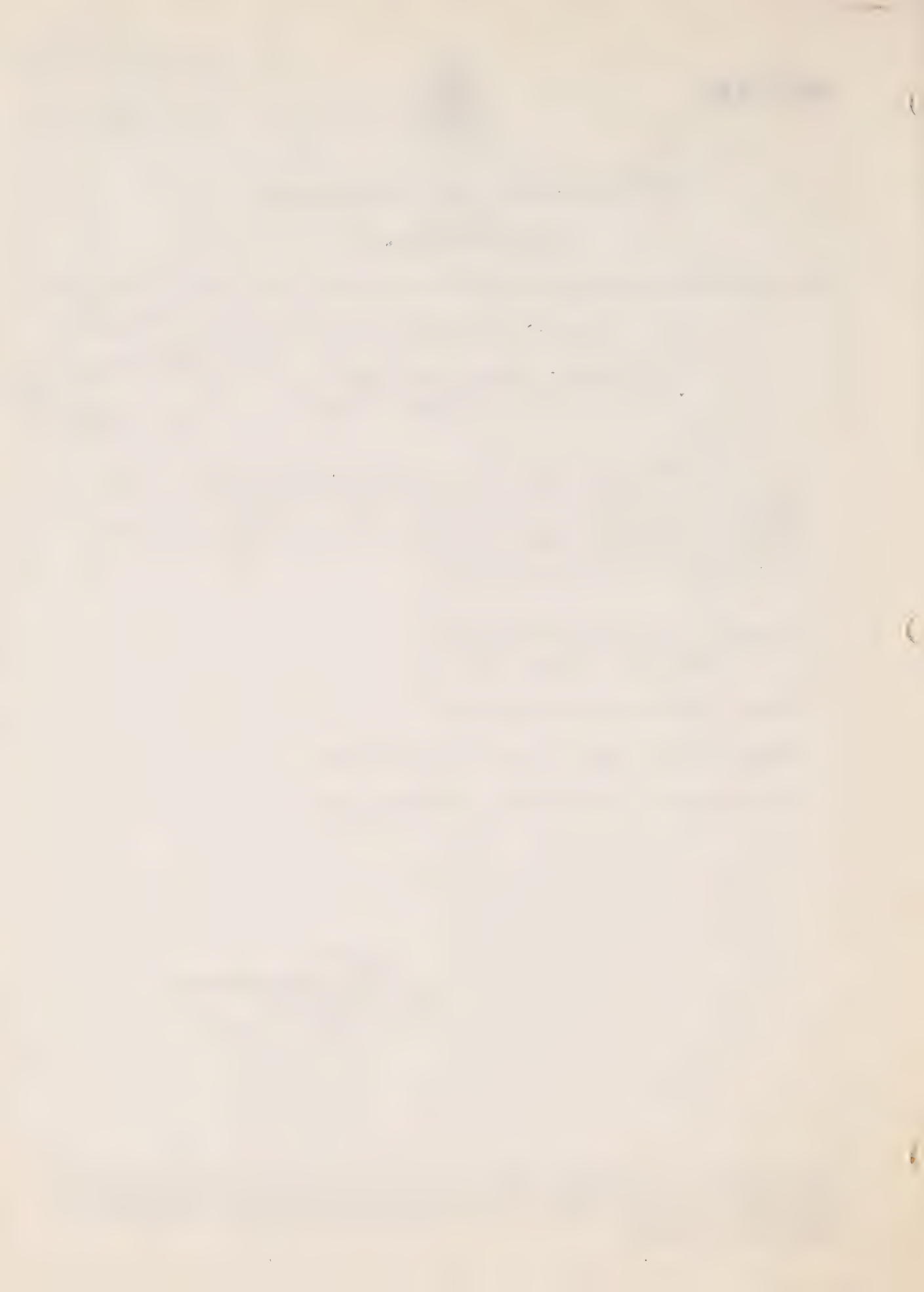
Saskatoon Terminal at 306-652-1848
(0800 to 2359 hours only)

Calgary Terminal at 403-277-5995

Winnipeg Area Control Centre at 204-786-4208

Edmonton Area Control Centre at 403-299-8305


R. W. Goodwin,
Director, Civil Aviation.



NOTAM



Air Traffic Control

12/70
15th April

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 62

AIR TRAFFIC CONTROL PROCEDURES

(Superseding NOTAM 26/69, 29/69, 7/70,
and Information Circular 0/17/69)

New or revised data is indicated by a vertical line.

This NOTAM is a consolidation of those NOTAM and the Information Circular listed above for the purpose of providing in one document guidance material on ATC procedures.

Any errors or omissions which are apparent in this document, or any suggestions for improvement, should be forwarded in writing to the Director, Civil Aviation Branch, Department of Transport, Ottawa 4, Ontario.

SUMMARY

Additions

Taxi Holding Position Marking - Diagram
Non-radar Lateral Separation
Transmission of Meteorological Information (CAVOK)
Edmonton Arctic Control Area
Positive Control Zones

Revisions

ATC Clearances and Instructions
IFR Flight Plans - Filing Procedures
Taxi Holding Distances - Increased from 100 to 150 ft.
Enroute Procedures - VFR Flight
Arrival Procedures - VFR Flight
Standard Traffic Pattern - Diagram
VFR Procedures - Aircraft without Radio
Communication Failure - Radar Vectored Aircraft

Cancellations

Edmonton Upper Flight Information Region

R. W. Goodwin,
Director, Civil Aviation.

Air Traffic Control Procedures

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AIR TRAFFIC CONTROL PROCEDURES

GENERAL

AIR TRAFFIC SERVICES

Airport Control Service: Control towers provide this service to aircraft and vehicles on the manoeuvring area of an airport and to arriving and departing aircraft operating in the vicinity of an airport.

Area Control Service: Area control centres (ACC) provide this service to IFR and Controlled VFR flights operating within controlled airspace.

Terminal Control Service: This service is provided by either an ACC or a terminal control unit (TCU) to arriving and departing IFR aircraft at major airports.

Extended Terminal Control Service: An additional service provided to VFR aircraft operating within high density traffic areas.

Alerting Service: The service provided by ACCs and towers to notify appropriate organizations regarding aircraft in need of Search and Rescue aid, alerting of crash equipment, ambulances, doctors and any other such safety services.

Flight Information Service: Air traffic control units provide, wherever possible, advice and useful information for the safe and efficient conduct of flights.

Airspace Reservation Service: The service provided by the Airspace Reservation Co-ordination Office (ARCO) and ACCs to provide reserved airspaces for specified air operations in controlled airspace and to provide information concerning these reservations.

Customs Notification Service (ADCUS): The service provided, on request, by ATC units for advance notification to Custom Officials for trans-border flights at specified "ports of entry". Complete information is contained in the Information Circular entitled "Customs and Immigration".

IDENTIFICATION OF AIR TRAFFIC CONTROL UNITS

Air Traffic Control Units are identified by the name of the airport or location, followed by the appropriate indication of the unit or function concerned.

Examples: OTTAWA TOWER - airport control tower.
OTTAWA GROUND - ground control function of control tower.
OTTAWA CLEARANCE DELIVERY - IFR clearance delivery function.
CALGARY TERMINAL - terminal control unit.
CALGARY ARRIVAL - arrival control function of terminal control unit.
CALGARY DEPARTURE - departure control function of terminal control unit.
CALGARY PRECISION - precision radar approach facility.
MONCTON CENTRE - area control centre.

Since surveillance radar, where available, is used by all controllers in the provision of control service, it is not necessary to use the word "radar" in the identification of an ATC unit in order to obtain radar service.

CALL SIGNS - CIVIL AIRCRAFT

In radiotelephony, civil aircraft should be identified as follows:

Canadian Air Carriers - the operator's name or assigned designation followed by:

- (a) the flight number, or
- (b) the last three characters of the registration

Foreign Air Carriers - the operator's name or assigned designation followed by:

- (a) the flight number, or
- (b) the full aircraft registration.

Operator of Canadian Private Aircraft - the manufacturer's name or type of aircraft followed by the last three characters in the registration, e.g. Cessna ADT.

Operator of Foreign Private Aircraft - the manufacturer's name or type of aircraft followed by the full aircraft registration, e.g. Aztec N6379P.

After communication has been established and when no likelihood of confusion exists, abbreviated call signs may be used as follows:

Canadian Air Carrier - no abbreviations permitted.

Foreign Air Carrier - where operator's name or assigned designator followed by aircraft registration is used, the registration may be abbreviated to not less than the last 2 characters, e.g. Speed-bird G-ABCD becomes Speedbird CD.

Operator of Canadian Private Aircraft - Manufacturer's name or type of aircraft may be omitted, e.g., ADT.

Operator of Foreign Private Aircraft - abbreviate to first and last three characters of the registration. Manufacturer's name or type of aircraft may be omitted, e.g., N79P.

UNITS OF MEASUREMENT

The following units of measurement are used in the Canadian ATC system.

Speed - Knots, except in the case of surface wind speed which is reported in statute miles per hour.

Distance - Nautical miles, except in the case of visibility which is reported in statute miles.

Time - Greenwich Mean Time (GMT or "Z") and the 24-hour clock system are used for all operational purposes. (RVR - feet)

Time is normally expressed in four figures, the first two indicating the hour past midnight, the last two indicating the minutes. When no misunderstanding is likely to occur, time may be expressed in minutes only (2 figures).

The time group 0000Z is used to indicate the start of the new day, e.g. 152359Z, 160000Z.

To convert from standard
time (24-hour clock)

to Greenwich Mean Time

Newfoundland	ADD 3½ hrs.
Atlantic	ADD 4 hrs.
Eastern	ADD 5 hrs.
Central	ADD 6 hrs.
Mountain	ADD 7 hrs.
Pacific	ADD 8 hrs.
Yukon	ADD 9 hrs.

Where daylight saving time is in use, reduce conversion factors by one hour.

Flight crews are responsible for ensuring the accuracy of their clocks or other time recording devices. Time checks will be given to departing aircraft on initial contact with ground control or tower, and to other aircraft on request. Time checks will be given in four figures to the nearest minute, e. g. , two two three four.

NUMBERS

Numbers, generally, are to be transmitted by pronouncing each digit separately.

Examples:	10	One Zero
	75	Seven Five
	100	One Zero Zero
	583	Five Eight Three
	1735	One Seven Three Five
	11002	One One Zero Zero Two
	38143	Three Eight One Four Three

Cruising altitudes within

- (a) the altimeter setting region are expressed in thousands and hundreds of feet, e. g. , 4500 - four thousand five hundred, 11000 - one one thousand, 17500 - one seven thousand five hundred.
- (b) the standard pressure region are expressed in terms of flight levels with each digit spoken separately, e. g. , FL 190 - flight level one nine zero, FL 270 - flight level two seven zero.

Decimal points are indicated by the word "DECIMAL".

Example: 118.1 One One Eight Decimal One

Headings are defined in degrees magnetic, expressed as a three-digit number, omitting the word "degrees". "Heading 360" is used to signify a north heading.

Example	005 degrees	HEADING ZERO ZERO FIVE
	030 degrees	HEADING ZERO THREE ZERO
	350 degrees	HEADING THREE FIVE ZERO

PHONETICS

Phonetic letter equivalents should be used for single letters or to spell out groups of letters or words whenever considered necessary to ensure understanding. Pilots are encouraged to use phonetics in aircraft call signs, especially on the initial contact.

The International Civil Aviation Organization (ICAO) phonetic equivalents should be used:

A - ALFA	J - JULIETT	S - SIERRA
B - BRAVO	K - KILO	T - TANGO
C - CHARLIE	L - LIMA	U - UNIFORM
D - DELTA	M - MIKE	V - VICTOR
E - ECHO	N - NOVEMBER	W - WHISKEY
F - FOXTROT	O - OSCAR	X - X-RAY
G - GOLF	P - PAPA	Y - YANKEE
H - HOTEL	Q - QUEBEC	Z - ZULU
I - INDIA	R - ROMEO	

0 - ZE-RO	5 - FIFE
1 - WUN	6 - SIX
2 - TOO	7 - SEV-en
3 - TREE	8 - AIT
4 - FOW-er	9 - NIN-er

Capitalized syllables are given equal stress; e.g., ZE-RO. When only one syllable is capitalized, that syllable is given primary stress; e.g., NIN-er.

ACKNOWLEDGEMENT OF ATC MESSAGES

A pilot shall acknowledge the receipt of all ATC messages directed to and received by him. Such acknowledgement may take the form of a transmission of the aircraft call sign; the call sign followed by an appropriate word(s); or, in cases where the text of the message includes the aircraft call sign, a read-back of the message by the pilot will constitute acknowledgement.

Examples: ATC: JAH OTTAWA TOWER CLEARED TO LAND.
 Pilot: JAH.
 ATC: JAH ARE YOU AT FIVE THOUSAND.
 Pilot: JAH AFFIRMATIVE

NOTE: Clicking of the microphone button as a form of acknowledgement is not considered acceptable radio procedure.

ATC CLEARANCES AND INSTRUCTIONS

Whenever an air traffic control clearance is received and accepted by the pilot, he shall comply with the clearance. If a clearance is not acceptable, the pilot should immediately inform ATC of this fact, since acknowledgement of the clearance, alone, will be taken by a controller as indicating acceptance. For example, on receiving a clearance for take-off, the pilot should acknowledge the clearance and take-off without undue delay or, if not ready to take-off at that particular time, inform ATC of his intentions in which case the clearance may be changed or cancelled.

A pilot shall comply with an air traffic control instruction which is directed to and received by him providing the safety of the aircraft is not jeopardized.

A clearance will be identified by use of some form of the word "clear" in its content. An instruction will always be worded in such manner as to be readily identified, although the word "instruct" will seldom be included.

Remember that control is predicated on known air traffic only and, when complying with clearances or instructions, pilots are not relieved of the responsibility for practicing good airman-ship.

RADAR

The use of radar increases airspace utilization by allowing ATC to reduce the separation interval between aircraft. In addition, radar permits an expansion of flight information services such as traffic and weather information, navigation assistance, and assistance to lost aircraft.

Radar Systems

Four basic types of radar systems are currently in use. These are:

Airport and Airways Surveillance Radar (AASR) - a medium range radar designed for both airway and airport surveillance applications.

Airport Surveillance Radar (ASR) - relatively short range radar intended primarily for surveillance of airport and terminal areas.

Precision Approach Radar (PAR) - a high definition, short range radar used as an approach aid. This system provides the controller with altitude, azimuth and range information of high accuracy for the purpose of assisting the pilot in executing an approach and landing. This form of navigational assistance is termed a "Precision Radar Approach".

Secondary Surveillance Radar (SSR) - a radar system that requires complementary aircraft equipment (transponder). The transponder generates a coded reply signal in response to transmissions from the ground station (interrogator). Since this system relies on transponder generated signal rather than signal reflected from the aircraft, as in primary radar, it offers significant operational advantages such as increased range and positive identification.

Radar Procedures

Before providing radar service, ATC will establish identification of the aircraft concerned. Pilots will be notified whenever radar identification is established or lost.

Examples: RADAR IDENTIFIED, or
RADAR IDENTIFICATION LOST.

Radar vectoring is used when necessary for separation purposes, when required by noise abatement procedures, when requested by the pilot, or whenever vectoring will offer operational advantages to the pilot or the controller. When vectoring is initiated, the pilot will be informed of the location to which the aircraft is being vectored.

Examples: TURN LEFT HEADING 050 FOR VECTORS TO VICTOR 300.
 MAINTAIN HEADING 020 FOR VECTORS TO THE VANCOUVER VOR 054 RADIAL.
 DEPART KLEINBURG BEACON ON HEADING 240 FOR VECTORS TO FINAL
 APPROACH COURSE.

Pilots will be informed when radar vectoring is terminated, except when an arriving aircraft is vectored to the final approach course or to the traffic circuit.

Example: RESUME NORMAL NAVIGATION.

When an aircraft is vectored to final approach or to the traffic circuit, the issuance of approach clearance indicates that normal navigation should be resumed.

Normally radar service will be continued until an aircraft leaves the area of radar coverage, enters uncontrolled airspace, or is transferred to an ATC unit not equipped with radar. When radar service is terminated the pilot will be informed accordingly.

Example: RADAR SERVICE TERMINATED.

Obstacle Clearance During Radar Vectors

The pilot of an IFR flight is responsible for ensuring that his flight is operated with adequate clearance from obstacles and terrain, as specified in The Air Regulations, Section 551. However, when an IFR flight is being radar-vectored, air traffic control will ensure that the appropriate obstacle clearance is provided.

Minimum radar transition altitudes, which may be lower than minimum altitudes shown on navigation and approach charts, have been established at a number of locations to facilitate

transitions to instrument approach aids. When an IFR flight is cleared to descend to the lower altitude, ATC will provide terrain and obstacle clearance until the aircraft is in a position from which an approved instrument approach or a visual approach can be commenced.

If a communication failure occurs while a flight is being vectored at an altitude below the minimum IFR altitudes shown on the instrument approach chart, the flight should climb immediately to the appropriate published minimum altitude, unless able to continue in VFR weather conditions.

Secondary Surveillance Radar

Regulations concerning transponders are contained in the "Secondary Surveillance Radar Transponder Order (ANO, SERIES II, No. 10)". When instructions concerning transponder operation are received from ATC, the transponder shall be operated as directed until further instructions are received or until the aircraft has landed, except in the case of an emergency or communication failure.

Air traffic controllers will use the following phraseology when referring to the operation of transponder equipment:

NOTE: Mode A is known to military pilots as "mode three", therefore ATC refers to this mode as "alpha three".

SQUAWK ALPHA THREE CODE (number) - Operate transponder on specified mode and code. (Transponder has not been operating on Mode A/3).

SQUAWK CODE (number) - Operate transponder on specified code. (Transponder is already operating on Mode A/3).

SQUAWK IDENT - Engage the identification ("IDENT") feature of the transponder.

SQUAWK CODE (number) AND IDENT - Operate transponder on a different code and engage the "IDENT" feature. (Transponder is already operating on Mode A/3.)

SQUAWK ALPHA THREE CODE (number) AND IDENT - Operate transponder on specified mode and code and engage the "IDENT" feature. (Transponder has not been operating on Mode A/3.)

SQUAWK STANDBY - Switch transponder to "standby" position, retaining present mode and code.

SQUAWK LOW/NORMAL - Operate transponder on low or normal sensitivity, as specified. (Transponder is operated on normal sensitivity unless ATC specified "low". "ON" is used instead of "NORMAL" as a label on some transponder control panels.)

SQUAWK MAY DAY CODE SEVEN SEVEN - Operate transponder on Mode A/3, Code 77.

STOP SQUAWK - Switch off transponder.

At the present time, ATC makes use of only the basic 64 codes in Mode A/3. In the assignment of codes, a two-digit code designation is used; e.g., Code 21 will be stated as Code Two One. When the aircraft is equipped with four-digit code, the pilot shall select the designated digits followed by two zeros, e.g., Code 21 assignment - select 2100.

In the near future, SSR with 4096 code capability will be in operation in the Canadian ATC environment. Four-digit code assignment will then be put into practice in conjunction with revised procedures for SSR code allocation.

FLIGHT PLANNING

Air Navigation Order, Series V, No. 4 defines the requirements respecting flight plans and flight notifications. Prior to undertaking the operation of an aircraft, pilots should become familiar with current flight planning procedures.

In the interest of safety, pilots are urged to file flight plans or flight notifications at all times, irrespective of the requirements of the regulations. This practice will provide ATC with information of particular significance if an aircraft fails to arrive at destination.

Since ATC flight following action is based primarily on information provided by the pilot, it is most essential that modifications to flight plans and flight notifications be communicated to the agency or person concerned as soon as possible after the change occurs.

VFR FLIGHT PLANS

Requirements: VFR flight plans are required under the following circumstances:

- (a) at night, or
- (b) to or from a military aerodrome,

except if such flight will be wholly or partly within a sparsely settled area (See ANO Series V, No. 12).

NOTE: Normally flight notifications are filed for flights wholly or partly within sparsely settled areas. However, a VFR flight plan may be filed if the flight begins and ends at a communications base.

Filing Procedures: Flight plans may be filed at an air traffic control unit either directly, or through a communications base such as:

- (a) an aeradio station,
- (b) an operations office (e.g., flying club, airline dispatch, etc.),
- (c) a designated airport office, etc.,
- (d) a location served by commercial telephone, radio, etc.

NOTE: Because of possible overloading, air-ground communications frequencies should not be used for the filing of flight plans and flight notifications where alternate methods are available.

When a flight will involve one or more intermediate stops enroute, a single flight plan covering the entire flight may be filed, provided:

- (a) the stop will be of short duration (for purposes such as boarding passengers, refueling, etc.);
- (b) each intermediate stop is indicated by repeating the name of the stopping point in the "Route";
- (c) the duration of each stop is indicated in "Other Information".

Example: "Stops 0 + 30 and 0 + 45".

When intermediate stops are planned, the "Estimated Elapsed Time" must be calculated as the total time to the final destination, including the duration of the intermediate stop(s).

Arrival Reports: In compliance with section 537 of the Air Regulations, arrival reports must be submitted to an ATC unit or an appropriate communications base within 30 minutes after landing. If this is not done, "Search and Rescue" proceedings may be initiated by the agency concerned.

Pilots who choose to file flight plans, rather than flight notifications, to remote locations such as a farm, ranch, lake, resort, etc., which are outside of designated sparsely settled areas, are cautioned to first make certain that adequate communications are available at destination to permit the filing of an arrival report with ATC within one-half hour after landing. It is important when filing a flight plan for this type of flight that the pilot insert, in the "Other Information" box on the flight plan form, specific information indicating how and from what place his arrival will be reported to ATC.

Example: "Arrival report - telephone from Jones' farm two miles SE Kerrobert to Saskatoon Tower".

The pilot is at all times responsible for the closing of his flight plan. It should not be taken for granted that ATC personnel will automatically file arrival reports at locations served by control towers.

DEFENCE VFR (DVFR) FLIGHT PLANS AND DEFENCE FLIGHT NOTIFICATIONS

Air Navigation Order, Series V, No. 14 defines the conditions under which DVFR flight plans and Defence flight notifications are to be filed. In general, these regulations apply only to aircraft operating at a true airspeed of 180 knots or more.

Essentially, no person shall operate an aircraft into or within a Canadian Air Defence Identification Zone or the DEWIZ unless an IFR or DVFR flight plan or Defence flight notification has been filed with an appropriate ATC unit.

If intermediate stops enroute are planned, separate flight plans must be filed for each stage of the flight unless a flight notification is filed.

IFR FLIGHT PLANS

Requirements: The Air Regulations require that prior to taking off from any point within and prior to entering any controlled airspace during IFR flight, or during IFR weather conditions, a flight plan for the flight containing such information as may be specified by the regulations shall be submitted by the pilot-in-command of the aircraft to the appropriate air traffic control unit.

The timely filing of IFR flight plans with Air Traffic Control is essential to allow control personnel time to extract and record the relevant content, correlate this new data with available information on other traffic under control, coordinate as necessary and determine how the flight may best be integrated with the other traffic.

Accordingly, in order to assist ATC in improving the service provided and to allow for sufficient time for input into the ATC Data Processing system, pilots are urged to file IFR flight plans as early as practicable, preferably 30 minutes prior to their proposed departure time, and to be prepared to depart as closely as possible to the proposed departure time specified in the flight plan.

In the case of transborder flights, where the point of departure is in close proximity to the boundary, flight plans should be filed at least one hour in advance in order to facilitate adequate coordination and data transfer. Compliance with this procedure will minimize departure delays.

NOTE: An IFR flight plan may be filed in lieu of a flight notification when the flight is non-stop and commences and terminates at a communications base.

Filing Procedures: IFR flight plans may be filed at an air traffic control unit either directly or through a communications base. Since ATC utilizes flight plan data in the application of separation standards, pilots should make certain that all significant flight plan modifications such as changes in route, airspeed, destination, etc., are communicated to the appropriate ATC unit.

Flight plans involving intermediate stops enroute may be filed at the initial point of departure under the following conditions:

- (a) for scheduled air carrier flights, provided flight plans are filed in accordance with procedures established by the Area Control Centre concerned;
- (b) for international flights with final destination in a country other than the U.S.A., provided separate flight plans for each stage of the flight are filed;
- (c) for other flights, provided:
 - (i) only one intermediate stop is involved;
 - (ii) both the initial point of departure and the stopping point are in Canada;

- (iii) the stop will be of short duration (for purposes such as boarding passengers, refueling, etc.); and
- (iv) separate flight plans for each stage of the flight are filed.

Arrival Reports and Cancellations: The pilot of an IFR flight for which a flight plan has been filed, shall report his arrival time to an ATC unit or communications base as soon as possible after landing.

Pilots may cancel IFR flight plans or change to VFR flight plans provided they are operating in VFR weather conditions, and are outside the Block Airspace and the controlled airspace between FL230 and FL450.

Where conditions indicate that the remainder of a flight can be conducted in accordance with VFR, the pilot will notify ATC by transmitting one of the following messages:

- (a) to cancel an IFR flight plan:
"CANCEL IFR FLIGHT PLAN", or
- (b) to revise an IFR flight plan to a VFR flight plan:
"CHANGE FLIGHT PLAN TO VFR".

Only an acknowledgement should be expected when either of the above messages is transmitted. These procedures should not be used when IFR conditions are expected in a subsequent portion of a flight. If, however, following the use of either of these procedures, subsequent IFR operation becomes necessary, a new IFR flight plan must be filed and an ATC clearance received before encountering IFR conditions.

It is drawn to the attention of pilots that under conditions requiring the filing of a flight plan for VFR flight, the phraseology in (b) must be used as that in (a) cancels the existing flight plan and the flight will continue operation with no flight plan.

FLIGHT NOTIFICATIONS

Requirements: Flight notifications are required under the following conditions:

- (a) flights wholly or partly within the sparsely settled areas (except IFR flights within controlled airspace).
- (b) flights normally requiring a flight plan but due to inadequate communications facilities would be unable to file a flight plan, or submit an arrival report within the prescribed time.

Filing Procedures: Flight notifications may be submitted to:

- (a) an air traffic control unit (as for flight plans).
- (b) a responsible person if communications facilities are inadequate to permit filing with ATC.

NOTE: Where the flight is to a military aerodrome, the Flight Notification must be filed with an ATC unit.

Arrival Reports: Arrival reports for flight notifications filed with ATC units must be submitted within 24 hours of the estimated time of arrival indicated on the flight notification. In the case of a flight notification filed with a responsible individual, the onus remains with the persons involved to mutually determine the flight following action desired.

AVOIDANCE OF SPECIFIED AIRSPACE

Under certain conditions it is considered necessary to limit flying in specified Canadian airspace.

Information concerning such airspace and the nature of the limitations imposed may be found in the following documents and directives:

- (a) Air Navigation Orders, Series V,
No. 9 - Prohibited and Restricted Airspace Order.
No. 10 - Flight Restrictions, National, Provincial and Municipal Parks Order.
- (b) Designated Airspace Handbook
Section 9 - Danger, Restricted and Military Flying Areas.
- (c) Notice to Airmen - temporary restrictions to flight are normally covered by NOTAM action, e. g. airspace reservations, etc.
- (d) Information Circular entitled "General"
Avoidance by Aircraft - Dominion Radio Astrophysical
Observatory - Penticton, B.C.
Conservation laws.

In general, flight may be permitted subject to prior approval within a "restricted area"; and is undertaken at the pilot's discretion within a "danger area". This applies to both IFR and VFR aircraft.

MILITARY FLYING AREAS (MFA)

Pilots undertaking flight within the high level structure should take into account published Military Flying Areas when planning their route of flight.

Military Flying Areas are reserved for the use of military training and testing exercises and civil aircraft are not permitted to operate within these areas. When operational requirements permit, the Military may release specified portions of a MFA to ATC in order to accommodate transiting civil aircraft. However, this should be considered the exception rather than the rule and pilots should plan their route of flight so as to avoid these areas.

MFAs are indicated on Canadian Radio Navigation High Level Charts as well as being listed in the Designated Airspace Handbook.

MILITARY ACTIVITY AREAS (MAA)

Occasionally, heavy military flying is carried out within pre-determined blocks of uncontrolled airspace. These are termed "military activity areas". Pilots of aircraft, especially if operating under instrument weather conditions, are advised to remain clear of MAAs. Notification of proposed military activity is accomplished by means of a Class I NOTAM which is published at least 24 hours in advance of the exercise.

AIRSPACE RESERVATIONS (ASPRV)

An airspace reservation is a block of controlled airspace reserved for the sole use of an agency during a specified time.

Although ATC will not clear an unauthorized flight into an active ASPRV, pilots, in planning routes and altitudes, should take into account any known airspace reservations that may have an impact on their proposed itinerary. Class I NOTAM are issued for all ASPRV activity except for that of a purely local nature.

Standard separation is provided by ATC between IFR traffic and reserved airspace.

EQUIPMENT SUFFIXES

When filing a flight plan for IFR or controlled VFR flight, the pilot of an aircraft equipped with a transponder, DME equipment, or both, shall indicate equipment capability by adding a suffix to the aircraft type as follows:

- /X - Transponder with no code capability
- /T - Transponder with 64 code capability
- /U - Transponder with 4096 code capability
- /D - DME
- /L - DME and transponder with no code capability
- /B - DME and transponder with 64 code capability
- /A - DME and transponder with 4096 code capability
- /M - TACAN, but no VOR, and transponder with no code capability
- /N - TACAN, but no VOR, and transponder with 64 code capability
- /P - TACAN, but no VOR, and transponder with 4096 code capability
- /W - Area Navigation capability
- /C - Area Navigation and transponder with no code capability
- /S - Area Navigation and transponder with 64 code capability
- /F - Area Navigation and transponder with 4096 code capability

Examples: Written - F27/T, DC8/A
 Spoken - F TWENTY-SEVEN SLANT TANGO
 DC EIGHT SLANT ALFA

ICAO FLIGHT PLAN FORM

Flight plans for international flights originating in, or entering Canada shall be filed in the ICAO format, as specified in ICAO Doc. 4444-RAC/501, except that "estimated times at FIR boundaries" (in Item 13 of the ICAO form) need not be included for operations within Canadian Airspace.

Flights between Canada and the United States are not classed as "international flights" with respect to flight plans.

DEPARTURE PROCEDURES

GENERAL

Pilots shall maintain a listening watch on the appropriate tower frequency while under control of the tower. Whenever possible, requests for radio checks and taxi instructions should be made on the appropriate ground control frequency. After establishing initial contact with the control tower, the pilot will be advised of any frequency changes required.

After communication has been established with the tower, the terms "THIS IS", "OVER", and other similar terms may be omitted, provided such omission does not lead to misunderstanding.

Radio Checks

Radio checks should be requested on the ground control frequency. An indication of readability will be given using the following scale except for pre-flight radio checks the phrase "RADIO CHECKS" may be used to indicate a readability of 4 or 5.

- 1. Bad
- 2. Poor
- 3. Fair
- 4. Good
- 5. Excellent

Example: Pilot: WINNIPEG GROUND, THIS IS JULIETT VICTOR HOTEL, RADIO CHECK, ONE TWO ONE DECIMAL NINE.

Ground

Control: JVH THIS IS WINNIPEG GROUND, RADIO CHECKS or READ YOU 4.

Requests for Push-back

Since controllers may not be in a position to see all obstructions which an aircraft may encounter during push-back, clearance for this manoeuvre will not be issued by the tower. Pilots requesting push-back will be advised to "Push-back at your discretion" and will be given traffic information to the extent possible. Pilots are cautioned that it is their responsibility to ensure that push-back may be accomplished in safety, prior to initiating aircraft movement.

Taxi Clearance

Taxi clearance should be requested on the ground control frequency. If no flight plan has been filed, the pilot should advise the tower as to the nature of the flight, such as "local VFR" or "proceeding VFR to (destination)".

Pilots of aircraft equipped with two-way radio are reminded that if cleared to taxi without restriction to the runway in use, no further clearance is required to cross any runway enroute.

Upon receipt of a normal taxi clearance, a pilot is expected to proceed to, but not onto, the runway he is to use for take-off. If, for any reason, the ground or airport controller requires that a pilot request a further clearance before crossing or entering any of the runways enroute to this taxi clearance limit, this requirement will be reflected in the taxi clearance.

Example: Pilot: WINNIPEG GROUND, JVH AT HANGAR NO. 3,
REQUEST TAXI CLEARANCE, OVER.
Ground
Control: JVH WINNIPEG GROUND, RUNWAY (number), WIND
(in degrees magnetic and miles per hour), TIME (in
GMT, four-figure group), ALTIMETER (four-figure
group giving the altimeter in inches), CLEARED TO TAXI
(runway or other specific point, route).

NOTE: Time and Altimeter will not normally be issued if the information was issued in preflight radio check. Runway, Wind and Altimeter will not normally be issued if the information is included in current ATIS broadcast and pilot acknowledges receipt of that message.

Common ATC Phraseologies:

ADVISE WHEN READY.
CONTINUE or CONTINUE TAXIING.
HOLD or HOLD ON (runway number, taxi-way) or HOLD
(direction) OF (runway number, taxi-way) or
HOLD SHORT OF (runway number, taxi-way) or
TAXI ON (runway number, taxi-way).
TAXI TO POSITION AND HOLD.
TURN NOW or TURN LEFT or TURN RIGHT.

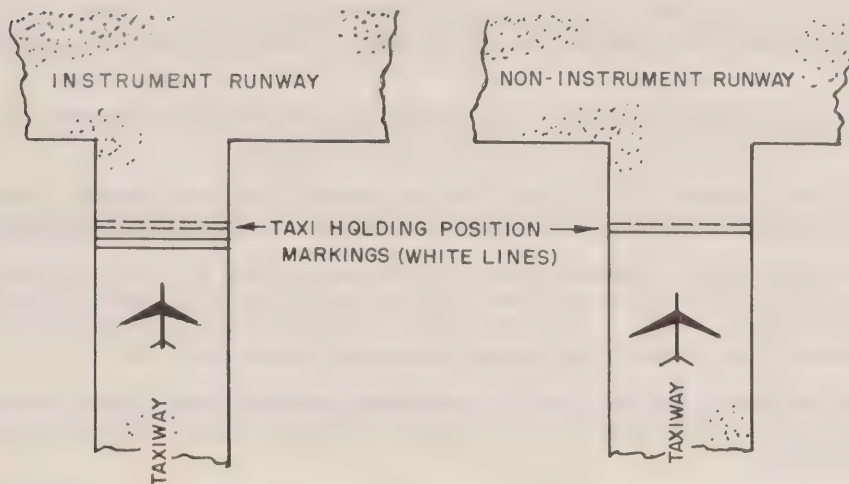
To avoid causing "clutter" on controllers' radar displays, transponders should be adjusted to "standby" while taxiing, and not be switched to "on" (or "normal") until immediately before take-off. If a transponder reply is required by ATC immediately after take-off, the appropriate instructions will be included in the IFR clearance.

Example: SQUAWK ALFA THREE, CODE TWO ZERO, JUST BEFORE TAKE-OFF.

Taxi Holding Position

A clearance must be obtained before leaving a taxi holding position, or where holding positions have not been established, before proceeding closer than 150 feet from the edge of the runway in use. At airports where it is not possible to comply with this provision, taxiing aircraft are to remain at a sufficient distance from the active runway to ensure that no hazard to arriving or departing aircraft is created.

Taxi holding position markings are as follows:



Take-off Clearance

When ready for take-off the pilot shall request take-off clearance. Upon receipt of take-off clearance, the pilot shall take-off without delay, or inform ATC if unable.

Example: Pilot: WINNIPEG TOWER JVH READY FOR TAKE-OFF.

Tower: JVH WINNIPEG TOWER (any special information - hazards, obstructions, etc.) CLEARED FOR TAKE-OFF (control instructions - turn after take-off, wind information if required, etc.).

When an aircraft is cleared for take-off on a runway at any controlled airport, the clearance is based on the premise that the full length of the runway will be available unless an intersection take -

off has been authorized. A pilot may request and receive clearance for take-off using only a part of the runway. Provided traffic noise abatement procedures and other conditions permit, the request will be approved but pilots are reminded that they, and not the controller on duty, are responsible for ensuring that the portion of the runway they elect to use will be adequate for the take-off run. Intersection take-offs may be suggested by the controller subject to concurrence by the pilot. In such cases the controller shall specify the remaining usable length of the runway available for take-off. Pilots are cautioned that light aircraft taking off from intersections behind heavier aircraft which are utilizing the full runway length are apt to encounter, particularly during calm or light wind conditions, severe turbulence in the wake of departing or arriving aircraft.

To expedite movement of airport traffic, pilots planning a static take-off (i. e. , a full stop in "position" on the runway) or a delay in take-off shall indicate this to the airport controller when requesting take-off clearance. If an intersection take-off has not been initiated and back-tracking on the live runway is required, the pilot should indicate his intentions to the controller prior to entering the runway.

A controller may not issue a clearance or approve a request for take-off from a pilot which would result in a deviation from established noise abatement procedures.

VFR FLIGHT

Procedures for Aircraft Without Radio

At all times, the pilot should be alert for visual signals which may be given by the tower.

Pilots are required to obtain clearance either by prearrangement or by visual signals before crossing or entering runways, taxi-ways or any other portion of the airport used for landings and take-offs.

Clearances must be obtained before proceeding any closer than 150 feet from the edge of the runway in use.

A pilot must obtain clearance to taxi back along the runway in use after landing. When an aircraft has been stopped by a red light a further clearance must be received before proceeding.

Take-off clearance by day - When ready for take-off, the aircraft should be taxied to a position at least 150 feet from the edge of the runway in use and positioned so as to permit the pilot to observe a visual signal from the tower. When an area other than a runway is being used for take-off, the pilot may attract the attention of the controller by turning the aircraft toward the tower.

By night - During the hours of darkness, a pilot wishing to attract the attention of the airport controller, should turn on a landing light with the aircraft positioned so that appropriate signals may be received from the tower.

Acknowledgement of Visual Signals - A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals as follows:

- (a) On the airport; full movement of rudder or ailerons, whichever can be most readily seen from the tower, (such movement should be repeated at least 3 times in succession) or taxiing the aircraft in the authorized direction.
- (b) At night; by a single flash of a landing light.

Procedures for Aircraft Equipped with Receiver Only

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only, except that an airport controller may request the pilot to acknowledge a transmission in a specific manner. After the initial acknowledgement no further acknowledgement, other than compliance with clearances and instructions, is necessary, unless otherwise requested by the controller.

Visual Signals

Authorized visual signals used by the tower and their meaning are as follows:

To aircraft on the ground:

1. A SERIES OF GREEN FLASHES - Cleared to taxi.
2. STEADY GREEN LIGHT - Cleared for take-off.
3. SERIES OF RED FLASHES - Taxi clear of landing area in use.
4. STEADY RED LIGHT - Stop.
5. FLASHING WHITE LIGHT - Return to starting point on the airport.

To all aircraft:

When the rotating beacon is lighted by day, this shall indicate that the weather within the control zone is below VFR limits.

Release from Tower Frequency

Pilots may request clearance from tower frequency or to another agency or service as appropriate.

Example: Pilot: WINNIPEG TOWER, JVH REQUEST CLEARANCE
 (from tower frequency, to company, to a specific
 frequency).

 Tower: JVH, WINNIPEG TOWER, CLEARED (from tower
 frequency, to company, to a specific frequency)
 NOW or AT (time) or OVER (location).

VFR flights will not be released from tower frequency while operating within the control zone.

IFR FLIGHT

Initial Contact

On initial contact with ground control, the pilot of an IFR aircraft should state the intended altitude of the flight.

IFR Clearance

An IFR clearance will normally be given after a flight has received taxi clearance. However, due to high fuel consumption during ground running time, some jet pilots may wish to obtain their IFR and taxi clearance prior to starting engines. Pilots using this procedure shall call the tower using a phrase such as "READY TO START NOW" or "READY TO START AT (time)". Normally such time should not be greater than 5 minutes prior to engine start. If a delay is anticipated, the pilot will be advised to contact "clearance delivery" on a specific frequency for his IFR clearance.

Example: Tower: JVH WINNIPEG GROUND/CLEARANCE DELIVERY
 IFR CLEARANCE (controller will wait for the pilot
 to indicate that he is ready to copy)
 ATC CLEARS, -----.

At certain airports an IFR departure clearance may include a coded departure routing known as a STANDARD INSTRUMENT DEPARTURE (SID). SIDs have been established at Montreal, Toronto, Ottawa and Vancouver International Airports and are published as a supplement to the Radio Navigation Charts. It is expected that SIDs will be instituted at other high density airports in the future.

Pilots of air carrier or military aircraft operating at airports for which SIDs have been published will be issued SID clearances by ATC whenever considered appropriate. Pilots of other aircraft will not be issued SID clearances unless requested by the pilot. No pilot is required to accept an abbreviated SID clearance. If any doubt exists as to the meaning of such clearance, the pilot should request a detailed clearance.

The clearance received by a pilot must be "read-back" to the controller except that the traffic information inserted at the end of the clearance may be acknowledged by the phrase "TRAFFIC RECEIVED". Read-back of the SID portion of a clearance should consist of repeating the name of the SID that has been received rather than repeating the detailed SID route as published. If the clearance "read-back" is incorrect, the pilot will be so advised and the correct data retransmitted to the pilot. These corrections must also be repeated by the pilot to ensure that they have been correctly received.

A controller may not issue a clearance or approve a request for take-off from a pilot which would result in a deviation from established noise abatement procedures.

A departing IFR aircraft, at radar equipped locations, is radar identified as soon as practicable and vectored so as to avoid conflicting traffic to allow climb to cruising altitude with the least possible delay.

At the pilot's request, ATC may issue a clearance to a departing IFR flight authorizing a portion of the flight to be made in accordance with VFR. The clearance will specify a time, altitude or location to which VFR must be maintained, and will include alternate instructions in the event VFR flight becomes impracticable.

Release from Tower Frequency

IFR Flights - Control Zones within Terminal Control Areas:

After take-off and when clear of conflicting airport traffic, an IFR flight will be cleared by the airport controller to contact a specific control unit on a specified frequency at a specified time or location. At certain locations flights will be advised to change to a specific departure frequency prior to take-off.

IFR Flights - Control Zones outside Terminal Control Areas:

When requesting release from tower frequency, the pilot shall advise the tower of the agency or the frequency to which he will change if such information has not been specified in the ATC clearance prior to departure.

ENROUTE PROCEDURES

VFR FLIGHT

Position Reports

VFR flights are not required to file position reports; however, they should file these reports whenever possible for their own protection. In order to minimize frequency congestion on direct centre pilot communications (DCPC) frequencies, pilots of VFR aircraft are urged to make routine position reports to the nearest DOT aeradio station. Such reports are recorded by the radio operator and, although not normally forwarded to ATC are immediately available in the event of search and rescue action. VFR position reports should be given in the following general format:

"OTTAWA RADIO, THIS IS INDIA GOLF BRAVO, VFR FLIGHT
PLAN, OVER OTTAWA AT ONE ONE FIVE EIGHT, ESTIMATING
KILLALOE ONE TWO THREE FOUR, OVER".

Controlled VFR Flights (CVFR)

Regulations governing flights within the Block Airspace are contained in Air Navigation Order, Series V, No. 15 entitled the "Block Airspace Order".

These regulations, developed in the interest of increased air safety, allow VFR pilots with special qualifications to be provided with IFR separation by Air Traffic Control. Controlled VFR flights must be conducted in accordance with procedures designed for use by IFR flights, except that when IFR weather conditions are encountered the pilot of a Controlled VFR flight must avoid such weather conditions.

It may not be possible for Air Traffic Control to issue a clearance for a controlled VFR flight to operate at the requested altitude at the time a pilot desires it. This may be due to the density of air traffic within the control area at the time which prevents the acceptance of any additional aircraft in the Block Airspace. In such cases, a later request, or a request for a different altitude, may be approved.

The Block Airspace consists of that airspace on airways extending from 9,500 ASL east of 114° W and 12,500 ASL west of 114° W to Flight Level 230. Since the 114th west meridian divides Blue Airway No. 14 and portions of Amber Airway No. 2, the Block Airspace on all of Blue 14 and that portion of Amber 2 between Third Lake Intersection and fifteen miles northwest of Edmonton has a base of 9,500 ASL. In order that the characteristics of the controlled airspace associated with the Victor Airway 301 section between Calgary and Edmonton and the alternate Victor 301 West may be compatible, the lower limit of the "Block Airspace" on Victor 301 West has been designated as 9,500 ASL.

ATC clearances for Controlled VFR flight will not normally be issued prior to take-off, but rather upon receipt of a position report filed by the pilot upon reaching the last 1,000 foot altitude below the base of the Block Airspace (8,500 or 11,500) with a request for a clearance. The clearance shall be read back by the pilot to ensure accuracy. This procedure is intended to ensure that the radio equipment is operating and to remind pilots that during climb to the Block Airspace, ATC separation is not being provided, and they must maintain a vigilant watch for other traffic. The ATC clearance will contain the phrase:

MAINTAIN (altitude) VFR.

Pilots planning Controlled VFR flight within the Block Airspace are warned not to expect the provision of this service on those airways which are controlled by U. S. ARTC Centres.

IFR FLIGHT

Position Reports

Pilots of IFR and controlled VFR flights are required to make position reports over compulsory reporting points listed in the "Designated Airspace Handbook" and in addition, over reporting points specified by an ATC unit.

Enroute IFR and controlled VFR flights should establish direct controller-pilot communications (DCPC) wherever possible. Peripheral (PAL) transmitter-receiver sites have been established at a number of locations to extend the communication coverage. Whenever DCPC communication cannot be established, pilots should make position reports to ATC through the nearest communications agency along the route of flight.

IFR flights being provided with radar service may be authorized by ATC to discontinue position reports over compulsory reporting points, while in an area of radar coverage. Pilots will be informed when to resume normal position reporting.

In order that flight information and alerting service may be provided to all IFR flights outside controlled airspace, pilots should make position reports over all navigation aids along the route of flight to the nearest station having air/ground communications capability.

Altitude Reports

Pilots shall report reaching the altitude to which the flight has been initially cleared; and when climbing or descending enroute, shall report leaving a previously assigned altitude and when reaching the assigned altitude. ATC expects that a climb or descent once commenced should be without interruption; however, if this is not possible ATC should be advised.

On initial contact with ATC or when changing from one ATC frequency to another, pilots are requested to state the assigned cruising altitude and when applicable, the altitude through which the aircraft is climbing or descending.

Example: EDMONTON CENTRE AIR CANADA 801 EIGHT THOUSAND CLIMBING TO
MAINTAIN FLIGHT LEVEL 350.

VFR Climb and Descent

Air traffic control will not clear aircraft in IFR flight to climb or descend in accordance with the visual flight rules unless the pilot makes a specific request to be permitted to do so. VFR climb or descent will not be authorized for flights within the Block Airspace or within controlled airspace between FL 230 and FL 450.

Pilots are reminded however, that in making such requests they are accepting responsibility for ensuring that adequate separation between their own and all other aircraft will be maintained during the climb or descent since Air Traffic Control cannot guarantee separation under these circumstances.

Cruising Altitudes

Use of Flight Level 180 - Flight Level 180 may be used only when assigned by ATC.

Since less than 1000 feet vertical separation may exist between an aircraft flying at 17,000 feet ASL on an altimeter setting and an aircraft flying at flight level 180 or higher, when the altimeter setting is below 29.92 inches, the lowest usable flight level will be assigned or approved in accordance with the following table.

<u>Altimeter Setting</u>	<u>Lowest Usable Flight Level</u>
29.92 or higher	180
29.91 to 28.92	190
28.91 to 27.92	200
27.91 or lower	210

However, flight level 180 may be assigned when the altimeter setting is below 29.92 but not below 28.92, provided that when vertical separation is being provided between the aircraft at flight level 180 and an aircraft operating on an altimeter setting, the latter aircraft shall not be assigned, or given approval to operate at, an altitude above 16,000 ASL.

"1000 Feet on Top" Flight - At the request of a pilot, at least "1000 feet on top" flights may be authorized by ATC. The altitude being maintained must be appropriate for the direction of flight and must be at least one thousand feet above all cloud, haze, smoke or other formations. ATC may not authorize such flights in the Block Airspace or the controlled airspace between FL230 and FL450. It is the pilot's responsibility to maintain adequate separation between his own and all other aircraft.

Clearance Limit

The clearance limit as specified in an ATC clearance is the point to which an aircraft is cleared. Further clearance is delivered to a flight prior to arrival at the clearance limit,

however, occasions may arise when this may not be possible. In the event further clearance is not received the pilot is expected to hold at the clearance limit, maintaining the last assigned altitude, and to request further clearance. He is not to proceed beyond this clearance limit, as the altitude maintained may be occupied beyond this point. For example, if a flight approaches a fix on a track of 90 degrees, holding should be accomplished at the fix on an inbound track of 90 degrees.

Responsibility rests with the pilot to determine whether or not a clearance received by him can be complied with in the event of a communication failure. Where circumstance require, a clearance may be refused but such refusal should specify acceptable alternatives.

AIRSPACE ABOVE FLIGHT LEVEL 230

Canadian controlled airspace within the high level structure is divided into three separate areas (a) Southern Control Area - airspace above flight level 230 (b) Northern Control Area - airspace above flight level 230, and (c) Arctic Control Area - airspace flight level 290 and above (see Special Procedures section of this NOTAM). The lateral dimensions of these areas are defined in the "Designated Airspace Handbook".

Pilots are reminded of the following rules which apply in the Northern, Southern and Arctic Control Areas:

- (a) All flights operating at and below FL 450 must be conducted in accordance with the Instrument Flight Rules and, therefore, require an ATC clearance.
- (b) "1000-on-top" flight is not permitted at or below FL 450.
- (c) Altimeters must be set to Standard Pressure (29.92 inches of mercury or 1013.2 mbs.).

Mach Number - Clearances

Clearances to turbo-jet aircraft equipped with a Mach meter system may include an appropriate Mach number. The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero decimal zone one (0.01) and ATC approval obtained by the pilot before making any change. If an immediate temporary change in Mach number is necessary (e. g. due to turbulence), ATC must be notified as soon as possible of such change. When a Mach number has been included in a clearance, the flight concerned should transmit its current Mach number with each position report.

Northern Control Area

ATC will assign altitudes in accordance with the following table:

<u>True Track</u>	<u>Flight Levels</u>
Between 000° and 179° inclusive	250, 290, 330, 370, 410, 450, etc.
Between 180° and 359° inclusive	270, 310, 350, 390, 430, 470, etc.

Flights operating on approved tracks formed by navigation aids which are more than 500 nautical miles apart should make position reports at fixed lines in accordance with the following:

- (a) Flights whose track is predominantly North or South (315° true clockwise through 045° true or the reciprocals) shall report over fixed reporting lines coincident with each 5° of latitude north or south of and including 60° North latitude;
- (b) Flights whose true track is predominantly East or West, (046° true through 134° true or the reciprocals) shall report over fixed reporting lines coincident with each 10 degree meridian east and west of and including 100° west longitude, except that where 20 degrees of longitude will be traversed in less than 60 minutes the flight may report over such reporting lines spaced at 20 degree intervals.

- (c) In forwarding a position report the "position" will be expressed by the latitude and longitude at which the reporting line is crossed. For North or Southbound flights, the latitude should be expressed in degrees only, and longitude in degrees and minutes. For East or Westbound flights, the longitude should be expressed in degrees only and the latitude in degrees and minutes. These reports should be made direct to ATC units using peripheral communications where available. If not possible, such reports will be made to Goose, Churchill, Winnipeg or Edmonton Aeradio Stations as appropriate, using the published frequencies. If radio contact cannot be established or maintained with any of the above-mentioned stations, position reports will be made to the nearest military unit, or to the nearest DOT Aeradio Station, on the appropriate HF or VHF frequency.
- (d) Westbound aircraft from the Sondrestrom FIR entering that portion of the NCA contained within the Edmonton FIR are to establish communication with Frobisher or, alternately, Churchill, Edmonton or Winnipeg; and, westbound aircraft from the Moncton FIR entering that portion of the NCA contained within the Winnipeg FIR are to establish communication with Churchill or Winnipeg, on International HF air/ground frequencies as soon as possible.

NON-RADAR LATERAL SEPARATION OF IFR FLIGHTS

The following information is intended to acquaint pilots with basic non-radar lateral separation standards applied by air traffic control, and thereby facilitate flight planning and improved understanding of ATC techniques.

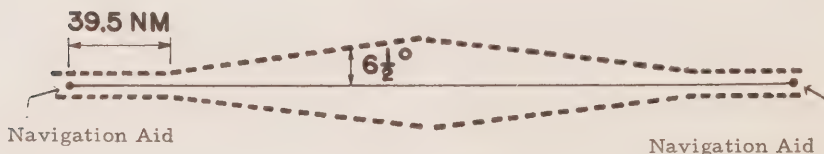
Lateral separation of IFR flights operating within controlled airspace is determined on the basis of protection by ATC of specified amounts of airspace on each side of an approved track. The dimensions of protected airspace for a particular track take into account the accuracy of available ground based navigation aids which provide track guidance, accuracy of airborne receiver and indicator equipment, a pilotage tolerance each side of indicated track, and a small allowance for sudden wind shifts and aircraft size. Separation is considered to exist provided the airspaces protected for each aircraft do not overlap.

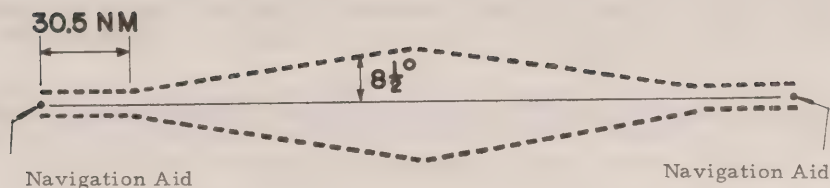
Because of the quality of navigation signal coverage and communications facilities available, pilots are encouraged to plan their flights along designated airways whenever practicable.

Controlled Airspace Above FL 230

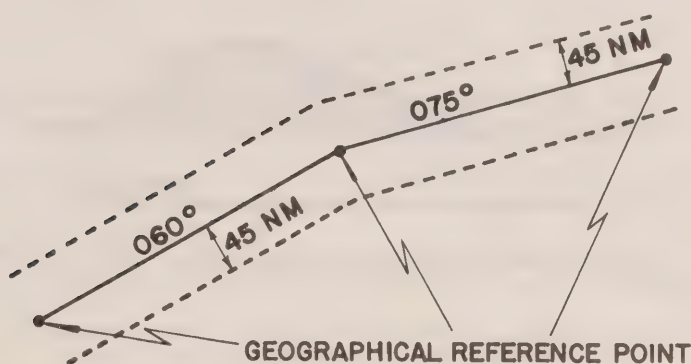
A high-level airway is described in the Designated Airspace Handbook in terms of "A prescribed track between specified radio aids to navigation" and therefore has no defined lateral dimensions. ATC will, however, protect the following airspace along all approved tracks above FL 230:

- (a) High-Level Airways - Airspace is protected to a width of 4.5 NM each side of the designated track, outward from the navigation aid to point of interception with lines originating at the navigation aid and diverging $6\frac{1}{2}^\circ$ (used for VOR and TACAN radials) or $8\frac{1}{2}^\circ$ (used for tracks determined from NDB's and LF/MF range courses) each side of track. Beyond this point, increased airspace is protected within lines which diverge at $6\frac{1}{2}^\circ$ ($8\frac{1}{2}^\circ$) until intercepting similar lines extending from the adjacent navigation aid. (See note to sub-paragraph (a) of Controlled Airspace at and below FL 230.)





- (b) Off-Airway Tracks Within Signal Coverage Range of Ground Based Navigation Aids - Airspace is protected to the same width as for high-level airways, provided aircraft are operating between navigation aids which normally afford continuous track guidance.
- (c) Off-Airway Tracks Beyond Signal Coverage Range of Ground Based Aids - Airspace is protected to a width of 45 NM each side of that portion of the track which is beyond normal signal coverage range of navigation aids used for track guidance.



Controlled Airspace At and Below FL 230

Low-altitude airways are described in the Designated Airspace Handbook in terms of lateral as well as vertical and longitudinal dimensions. ATC will protect the following airspace along approved tracks at and below FL 230:

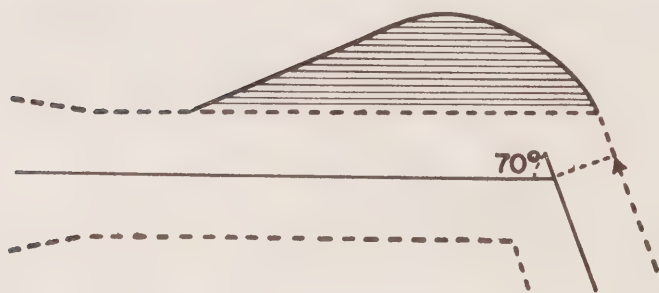
- (a) Low-Altitude Airways - Airspace is protected to the full width of the airway.

NOTE: When an aircraft is operating with right side separation on an LF/MF range course, an additional 4.5 NM of airspace will be protected between the right boundary of the airway on which it is operating and the boundary of airspace protected for any aircraft which may be operating in adjacent controlled airspace.

- (b) Off-Airway Tracks Within Normal Signal Coverage Range of Ground Based Navigation Aids - Airspace is protected to a width of 4.5 NM each side of track to a point 39.5 NM beyond a navigation aid. Beyond this point, airspace is protected within lines extending from the navigation aid and diverging at $6\frac{1}{2}^\circ$ each side of track until interception of similar lines from an adjacent navigation aid.
- (c) Off-Airway Tracks Beyond Signal Coverage Range of Ground Based Navigation Aids - Airspace is protected to a width of 45NM each side of that portion of track which is beyond normal signal coverage range of navigation aids used for track guidance.

Change of Direction Within Controlled Airspace At and Above FL 180

Additional airspace will be protected at and above FL 180 on the manoeuvring side of tracks which change direction by more than 15° overhead navigation aids or intersections. It is expected that pilots of aircraft operating below FL 180 will make turns so as to remain within the normal width of airways or airspace protected for off-airway tracks.



Since the lateral separation standards applied by air traffic control are dependent upon the probable accuracy of navigation along each track, it will be the pilot's responsibility to remain within the boundaries of protected airspace for an assigned track in order to be assured of lateral separation from other air traffic.

Normally, the airspace to be protected for an approved track will be predicated on the premise that the changeover from one navigation reference to another will take place approximately midway between facilities. Where this is not possible due to a difference in the signal coverage provided by two adjacent navigation aids, the equal signal point on an airway segment will be shown.

In order to remain clear of Restricted or Danger Areas, pilots should flight plan so that the airspace-to-be-protected for the intended track does not overlap the area of concern.

HOLDING PROCEDURES

IFR FLIGHT

General

Standardization of aircraft entry and holding manoeuvres is essential for the efficient and economical use of airspace in the control of air traffic.

Holding patterns which now appear on Canadian Air Pilot instrument approach charts are published as a guide only, to enable pilots to anticipate normal holding instructions.

A holding clearance issued by ATC will include at least the following information:

- (a) Clearance to the holding fix.
- (b) Direction to hold from the holding fix.
- (c) On specified, radial, course, inbound track.
- (d) If DME is used, the DME distances at which the fix end and outbound end turns are to be commenced. (e.g., "Hold between (number of miles) and (number of miles).").
- (e) Time to expect further clearance, time to expect approach clearance, or time to leave the fix in the event of communications failure.

During entry and holding, all turns are to be made so as to achieve an average bank angle of at least 25°, or a rate of 3° per second, whichever requires the lesser bank.

Unless the clearance issued by ATC contains instructions to the contrary, all turns after initial entry into the holding pattern shall be made to the right.

Occasionally, a pilot may reach a clearance limit before obtaining further clearance from ATC. In this event, the pilot is expected to hold in a standard pattern on his inbound track to such clearance limit and request further clearance. He is not to proceed beyond the clearance limit as the altitude maintained may be occupied beyond this point.

Example 1:

A westbound flight on Green 1, cleared to Casselman (NX) NDB reaches Casselman before obtaining further clearance. The pilot is expected to hold at NX on an inbound track of 280° until receiving further clearance.

Example 2:

The published missed approach procedure for an ILS RWY 24 approach at Halifax is:
"CLIMB to 2100 feet on track of 238° to GOLF NDB."

A pilot missing an ILS approach to RWY 24, and not in receipt of further clearance is expected to proceed directly to the GOLF NDB, make a right turn and hold at the GOLF beacon on an inbound track of 238°, one minute pattern at 2100 feet until obtaining further clearance.

If for any reason a pilot is unable to conform to these procedures, he should advise ATC as early as possible.

Procedures covering communications failure are contained in ANO, Series V, No. 5.

Entry Procedures

The entry into a holding pattern shall be made according to the aircraft's heading in relation to the three sectors shown in Figure 1, recognizing a zone of flexibility of 5° on either side of the sector boundaries. For holding on VOR intersections or VOR-DME/TACAN fixes, entries will be limited to the radials or DME arcs forming the fix, as appropriate.

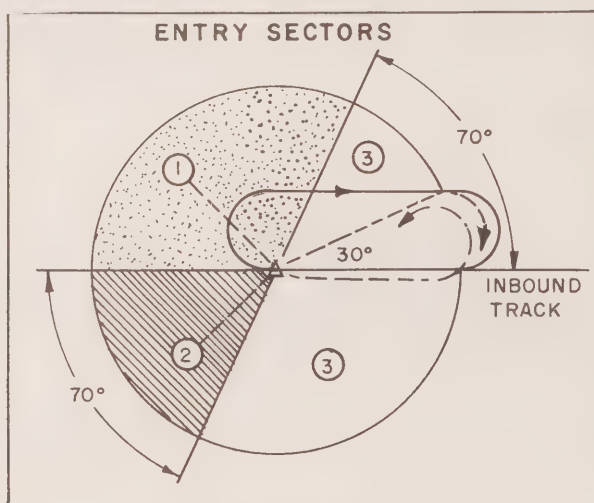


FIGURE 1

Sector 1 Procedures (Parallel entry) -

- (a) Upon reaching the fix, turn onto an outbound heading for the appropriate period of time. (See item entitled Timing, below figure 3 following)
- (b) Turn left to intercept the inbound track.
- (c) On second arrival over the fix, turn right and follow the holding pattern.

Sector 2 Procedure (Offset entry) -

- (a) Upon reaching the fix, turn to a heading which will make good a track having an angle of 30° or less from the inbound track on the holding side.
- (b) Continue for the appropriate period of time, then turn right to intercept the inbound track and follow the holding pattern.

Sector 3 Procedure (Direct entry) - Upon reaching the fix, turn right and follow the holding pattern.

The still air time for flying the outbound entry heading should not exceed one minute if at or below 14,000 feet ASL, or 1½ minutes if above 14,000 feet ASL. Entry timing is to begin over or abeam the fix.

Standard Holding Pattern

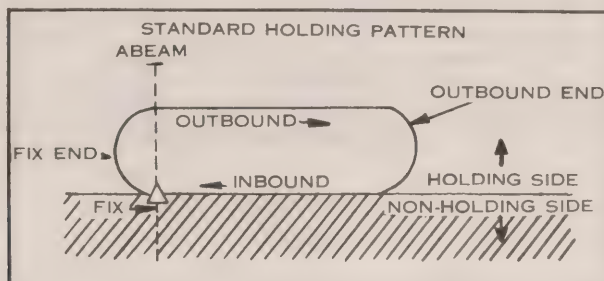


FIGURE 2

A standard holding pattern is depicted above and described below in terms of still air conditions.

- (a) Having entered the holding pattern, on the second and subsequent arrivals over the fix, execute a right turn to fly an outbound track which will most appropriately position the aircraft for the turn onto the inbound track.
- (b) Continue outbound for one minute if at or below 14,000 feet ASL or for 1½ minutes if above 14,000 feet ASL.

NOTE: Distance will be specified by ATC instead of time where a DME fix is to be used for holding.

- (c) Turn right so as to realign the aircraft on the inbound track.

When holding at a VOR, pilots should begin the turn to the outbound leg at the time of the complete reversal of the TO-FROM indicator.

Non-Standard Holding Pattern

A non-standard pattern requires that:

- (a) Fix end and outbound end turns be made to the left, and/or
- (b) Time along the outbound track be other than the 1-minute or 1½-minute leg appropriate for altitude being flown.

Entry procedures to a non-standard pattern requiring left turns are oriented in relation to the 70° line on the holding side, just as in the standard pattern. Refer to Figure 3.

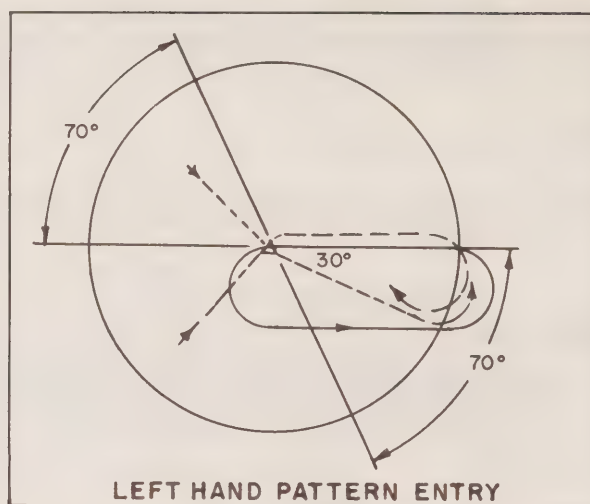


FIGURE 3

Timing

The still air time for flying the outbound leg of a holding pattern should not exceed one minute if at or below 14,000 feet, or $1\frac{1}{2}$ minutes if above 14,000 feet ASL. However, due allowance should be made in both heading and timing to compensate for the effects of known wind, except when turning.

Entry timing should begin when over or abeam the fix. The initial outbound heading should be flown for 1 or $1\frac{1}{2}$ minutes (appropriate to altitude). If it is known that a headwind will exist when outbound, timing may be increased by not more than 30 seconds when holding above 130K IAS, or by not more than one minute when holding at 130K IAS or below.

After initial circuit of the pattern, timing should begin from abeam the fix or on attaining the outbound heading, whichever occurs later. Outbound times should be increased or decreased, in recognition of wind conditions, to effect 1 minute or $1\frac{1}{2}$ minutes (appropriate to altitude) inbound to the fix.

When ATC clearance is received specifying the time to depart the holding pattern, the pilot should adjust his flight pattern within the limits of the established holding pattern in order to leave the fix as close as possible to the time specified.

Speed Limitations

Holding patterns must be entered and flown at or below the following airspeeds:

- | | | |
|-----|--|----------|
| (a) | propeller-driven aircraft | 175K IAS |
| (b) | turbo-jet aircraft | |
| | (i) Up to 6000 feet, inclusive | 200K IAS |
| | (ii) Above 6000 feet to 14,000 feet, inclusive | 210K IAS |
| | (iii) Above 14,000 feet | 230K IAS |
| (c) | turbo-prop aircraft may operate at normal climb IAS while climbing in a holding pattern and turbo-jet aircraft may operate at 310K IAS or less, while climbing in a holding pattern. | |

Pilots are to advise ATC immediately if airspeeds in excess of those specified above become necessary for any reason, including turbulence, or if unable to accomplish any part of the holding procedure. After such higher speed is no longer necessary, the aircraft should be operated at or below the specified airspeeds, and ATC notified.

NOTE: Airspace protection for turbulent air holding is based on a maximum of 280 K IAS or Mach .8, whichever is lower. Considerable impact on the flow of air traffic may result when aircraft hold at speeds which are higher than those specified above.

After departing a holding fix, pilots should resume normal speed subject to other requirements, such as speed limitations in the vicinity of controlled airports, specific ATC requests, etc.

DME Procedures

DME holding is subject to the same entry and holding procedures previously described except that distances, in nautical miles are used in lieu of time values.

In describing the direction from the fix on which to hold and the limits of a DME holding pattern, an ATC clearance will specify the DME distance from the navigation aid at which the inbound and outbound legs are to be terminated. The end of each leg is determined by the DME indication.

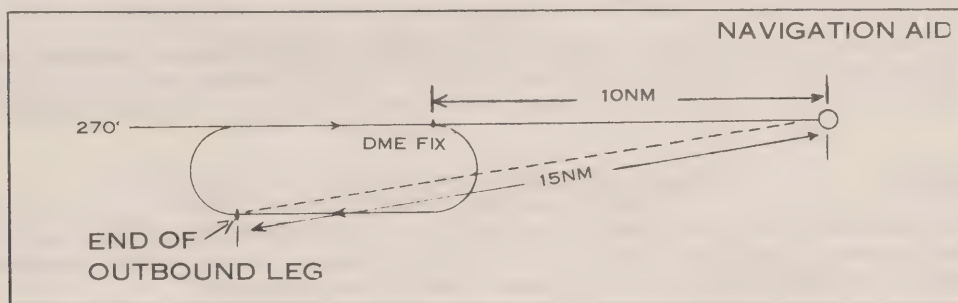


FIGURE 4

Example - An aircraft cleared to the 270 RADIAL 10 MILE DME FIX, to HOLD BETWEEN 10 AND 15 MILES, will hold inbound on the 270° radial, commence turn to the outbound leg when the DME indicates 10 NM and commence turn to inbound leg when the DME indicates 15 NM.

ARRIVAL PROCEDURES

VFR FLIGHT

Traffic Circuit

The traffic circuit consists of the downwind leg, base leg, and final approach leg. (See diagram, next page).

A clearance to the circuit indicates that the pilot should join the traffic circuit on the downwind leg at circuit height.

A straight-in approach is an approach wherein the traffic circuit is entered on the final leg without having executed any other portion of the circuit.

A right-hand approach when a left-hand circuit is in effect is an approach carried out in a manner appropriate to a right hand circuit.

Once established in the circuit as cleared, the pilot is to advise the tower accordingly.

Example: Pilot: VICTORIA TOWER, RMG, DOWNWIND

Tower: RMG, NUMBER (approach sequence number).
If not number one, the tower will give the type, position and colour if significant, of aircraft to follow and other instructions or information.

Pilot: RMG.

Common ATC Phraseologies:

FOLLOW (aircraft type) NOW ON BASE LEG.

EXTEND DOWNWIND.

WIDEN APPROACH.

Entry to the circuit shall be made in such a manner so as to avoid "cutting off" other aircraft, conforming as closely as possible to the altitude (normally 1000 feet above terrain), speed and size of the circuit being made by other traffic. Flights which are not in communication with the tower shall, at all times, be on the alert for visual signals.

In order to increase safety by reducing the possibility of confliction with departing traffic, aircraft approaching the active runway from the upwind side are to enter crosswind abeam a point approximately midway between each end of the runway, taking into account aircraft performance, wind and/or runway length.

Initial Contact

Prior to entering a positive control zone (See ANO V, No. 21), the pilot shall call the tower on the appropriate frequency, giving his identification, position (distance in miles and direction from the airport or by reference to a geographical fix), and request landing instructions.

It is strongly recommended that pilots establish and maintain radio communications with the appropriate control tower prior to operating within any other control zone served by a control tower.

Initial Clearance

On initial contact with the tower, the airport controller will advise the pilot the runway to use, wind direction and speed, altimeter setting and any other pertinent information. Normally, the airport controller will clear the aircraft to the traffic circuit; however, under certain weather and/or traffic conditions, the aircraft may be cleared to a specific location, or directly to base leg, or for a straight-in approach.

Example: Pilot: VICTORIA TOWER CESSNA ROMEO MIKE GOLF

NOTE: Pilots are requested to use the phonetic alphabet for aircraft identification on initial contact.

Tower: RMG, VICTORIA TOWER.

Pilot: VICTORIA TOWER RMG, OVER ACTIVE PASS,
REQUEST LANDING INSTRUCTIONS.

Tower: RMG, VICTORIA TOWER, RUNWAY (number), WIND,
(direction in degrees magnetic, speed in miles per hour),
ALTIMETER (four-figure group in inches), CLEARED TO
THE CIRCUIT or CLEARED TO LEFT BASE LEG or
CLEARED STRAIGHT-IN APPROACH, followed by other
pertinent instructions or information if deemed necessary.

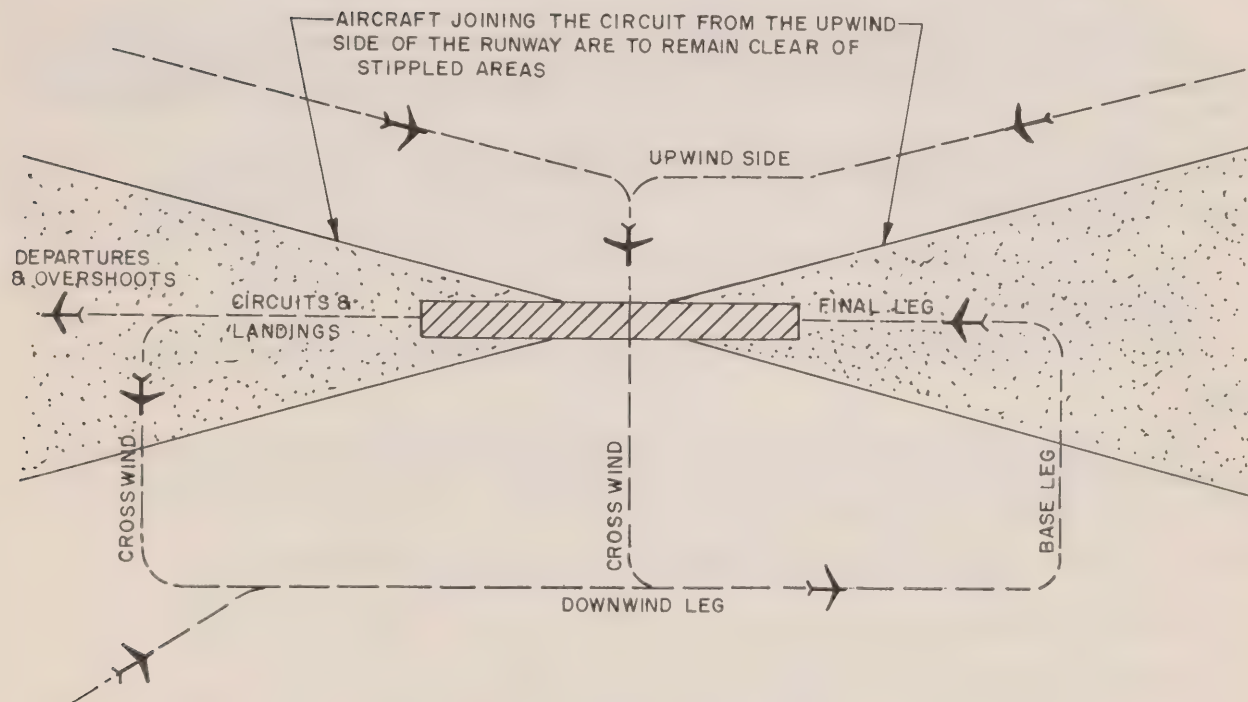
Pilot: RMG.

Where a pilot has been monitoring current landing information from the tower, he may request initial clearance as follows:

Pilot: VICTORIA TOWER, CESSNA ROMEO MIKE GOLF,
(aircraft position) CHECK LANDING INSTRUCTIONS.
REQUEST CLEARANCE TO THE CIRCUIT (or other
type of approach.)

NORDO and RONLY aircraft should approach the circuit from the upwind side, enter crosswind at circuit height and taking due account of other traffic, join the circuit on the downwind leg. Pilots are cautioned to remain clear of the approach and/or departure paths of the active runway when joining the circuit. (See diagram).

STANDARD TRAFFIC PATTERN
LEFT HAND CIRCUIT.



NOTE-WHERE A RIGHT HAND CIRCUIT IS ESTABLISHED,
THE CONVERSE OF THIS DIAGRAM IS APPLICABLE.

Landing Clearance

A pilot must obtain landing clearance prior to landing. Normally the airport controller will initiate landing clearance without having first received the request from the aircraft; however, should this not occur, the onus remains with the pilot to request such clearance in sufficient time to accommodate the operating characteristics of the aircraft being flown. NORDO and RONLY aircraft shall be considered as intending to land when they join and conform to the traffic circuit. Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit.

Example: Pilot: VICTORIA TOWER RMG LANDING CLEARANCE

Tower: RMG VICTORIA TOWER CLEARED TO LAND. (If aircraft is equipped with retractable landing gear) CHECK GEAR DOWN.

Pilot: RMG.

NOTE: Pilots are cautioned that the phrase "check gear down" is used by air traffic controllers at the request of pilot organizations as a reminder only to a pilot that he should "check whether or not the landing gear is down and locked". It is not, under any circumstances, to be construed by pilots as meaning that the controller has observed and is confirming that the gear is actually down.

When an aircraft is on final approach and it appears that the runway may not be clear for landing, the pilot will be advised to "CONTINUE APPROACH, POSSIBLE PULL-UP". When a "pull-up" is necessary (before or after landing clearance has been issued) the pilot shall abandon his approach and make another circuit.

Example: PULL-UP AND GO AROUND, TRAFFIC STILL ON RUNWAY

Common ATC Phraseologies:

CAUTION, POSSIBLE TURBULENCE FROM LANDING (aircraft type and position).
MAKE LEFT/RIGHT 360.
MAKE FULL-STOP LANDING.
CONTACT TOWER/GROUND ON (frequency) AFTER LANDING/WHEN CLEAR OF RUNWAY/NOW.

Taxiing

After landing, aircraft shall clear the runway without delay by continuing forward to the nearest available taxi strip or turn-off point, unless otherwise instructed by air traffic control. When required, instructions for clearing the runway will be given as follows:

Example: Tower: IGB (instructions for clearing runway) CONTACT GROUND CONTROL (specific frequency) NOW or AT (specific location).

Towers will normally provide the aircraft down time, only when requested by the pilot.

Normally, aircraft will not be changed to ground control until clear of the active runway.

When clear of the runway in use, taxi clearance will be given as follows:

Example: Tower: IGB CLEARED TO (ramp, gate or parking area) (any special instructions such as routing, traffic, cautionary or warning regarding construction or repair on the manoeuvring area.)

Speed Limitation at Controlled Airports

In order to reduce collision hazard in the vicinity of controlled airports it is considered advisable to operate aircraft at reduced airspeeds. When below 3,000 feet above ground and within 10 miles of the centre of a controlled airport, aircraft should be operated at an airspeed of 160 knots or less. For those aircraft which are unable to safely manoeuvre at this speed, it is recommended that they be operated at the minimum speed which permits safe control of the aircraft for the necessary flight manoeuvre.

Procedure for Aircraft Without Radio

At all times, the pilot should be on the alert for visual signals which may be given by the tower.

Traffic Circuit - The pilot shall approach the traffic circuit from the upwind side of the runway, enter crosswind at circuit height abeam a point approximately midway between each end of the runway and join the circuit on the downwind leg. While within the circuit the pilot shall conform to the speed and size of the circuit, maintaining such separation from aircraft ahead that a landing can be made without overtaking it. If it is necessary for a flight to cross the airport prior to entering crosswind, this shall be done well above circuit height and descent to circuit height should be made in the upwind area of the active runway.

Final Approach - Before turning on final approach, a pilot shall check for any aircraft on a straight-in approach.

Landing Clearance - Landing clearance will be given on final approach. If landing clearance is not received, the pilot shall, except in case of emergency, pull up and make another circuit. (Note - Landing clearance may be withheld by the tower when there are preceding aircraft which have not landed or if the runway is not clear).

Taxiing - No taxi clearance is required after landing, except to cross the runway in use, or to taxi back to a turn-off strip. When an aircraft's landing run carries it past the last available turn-off point, it shall proceed to the end of the runway and be taxied to one side, waiting there until clearance is received to taxi back to the nearest turn-off point.

Procedures for Aircraft Equipped with Receiver Only

It is the responsibility of the pilot to advise the airport controller concerned, preferably by filing a flight plan, that his aircraft is equipped with a receiver, otherwise he will receive instructions by visual signals.

The procedures which apply to aircraft without radio also apply to aircraft equipped with receiver only except that an airport controller may request the pilot to acknowledge a transmission in a specified manner. After the initial acknowledgement no further acknowledgement other than compliance with clearances and instructions is necessary, unless otherwise requested by the controller.

Visual Signals

Authorized visual signals used by the tower and their meanings are as follows:

To aircraft in flight:

1. STEADY GREEN LIGHT - Cleared to land.
2. STEADY RED LIGHT - Give way to other aircraft and continue circling.
3. A SERIES OF GREEN FLASHES - Return for landing. (Note: This shall be followed at the proper time by a steady green light.)
4. A SERIES OF RED FLASHES - Airport unsafe; do not land.
5. THE FIRING OF A RED PYROTECHNICAL LIGHT - Whether by day or night and notwithstanding previous instructions, means do not land for the time being.

Acknowledgement of Visual Signals - A pilot shall, where practicable, acknowledge all clearances and instructions received by visual signals. Signals may be acknowledged as follows:

- (a) Distinct rocking of aircraft in flight
- (b) At night, by a single flash of a landing light.

IFR FLIGHT

Initial Contact with Towers

Pilots shall establish communication with the control tower as follows:

- (i) if in direct communication with an area control centre or a terminal control unit, the pilot will be advised by the IFR controller when he is to contact the tower, or
- (ii) if the conditions in (i) above are not applicable, pilots shall establish communication with the tower when approximately 25 miles from the airport and shall remain on tower frequency.

Speed Adjustment - Radar-controlled Aircraft

For reasons given below, it is sometimes necessary to request speed adjustments, however, while ATC will take every precaution not to request speeds beyond the capability of the aircraft, it is the pilot's responsibility to ensure that he does not operate his aircraft at a speed below the safe minimum manoeuvring speed. If an ATC unit should request a speed reduction below the aircraft's safe manoeuvring speed, the pilot should inform ATC that he is unable to comply.

To avoid excessive vectoring when establishing an arrival sequence, controllers may request pilots of radar-controlled aircraft entering or about to enter the destination terminal area to adjust aircraft speed.

Speed adjustment requests will be expressed in units of ten knots or multiple of ten knots based on indicated airspeed (IAS). Pilots complying with speed adjustment requests are expected to maintain a speed within plus or minus ten knots of the specified speed.

Pilots of multi-engined aircraft may be requested to do one of the following:

- (a) Maintain present speed.
- (b) Increase speed to a specified speed or by a specified amount.
- (c) Reduce speed to a specified speed or by a specified amount.

Unless prior concurrence in the use of a lower speed is obtained from the pilot, the following minimum speeds will be applied to multi-engined aircraft:

- (a) For multi-engined turbo-jet and propeller-driven aircraft operating 30 miles or more from destination airport: - Not less than 250 knots IAS.
- (b) For multi-engined turbo-jet and propeller-driven aircraft operating 20 to 30 miles from destination airport, and
 - (i) at or above 10,000 feet ASL: - Not less than 250 knots IAS.
 - (ii) below 10,000 feet ASL: - Not less than 200 knots IAS.
- (c) For multi-engined turbo-jet aircraft operating less than 20 miles from destination airport: - Not less than 180 knots IAS.
- (d) For multi-engined propeller-driven aircraft operating less than 20 miles from destination airport: - Not less than 150 knots IAS.

Pilots of single-engine aircraft, or those of multi-engined aircraft, which cannot attain speeds as high as the minimum speeds specified above, may be requested to, if practicable, do one of the following:

- (a) Maintain a specified speed equivalent to that of a preceding or succeeding aircraft; or
- (b) Increase or decrease speed by a specified amount.

When application of speed adjustment procedures is no longer necessary, the pilot concerned will be advised to resume normal speed except when an approach clearance is issued. Approach clearances supersede speed adjustment assignments and pilots are expected to make their own speed adjustments, as necessary, to complete the approach.

Speed Adjustment - Non radar-controlled Aircraft

In order to reduce collision hazard in the vicinity of controlled airports it is considered advisable, unless otherwise authorized by ATC, to operate non-radar controlled aircraft at reduced speeds. When below 3,000 feet above ground and within 10 miles of the centre of a controlled airport, aircraft should be operated at an airspeed of 160 knots or less. For those aircraft which are unable to safely manoeuvre at this speed, it is recommended that they be operated at the minimum speed which permits safe control of the aircraft for the necessary flight manoeuvre.

Advance Notice of Alternate Airport - Jet Aircraft

Missed approaches by jet aircraft can be handled more efficiently if the controller knows of the pilot's intentions in advance. He can use the extra time to plan for the possibility of a climb-out and thus provide better service in the event of an actual missed approach.

Pilots of jet aircraft are encouraged to adopt the following procedure as the occasion arises:

On receipt of approach clearance, when the ceiling and visibility reported at the destination airport are less than 100 feet or one mile above the minima published for the type of approach to be executed, the pilot should advise the controller as follows:

In the event of missed approach request (altitude or flight level) via (route) to (airport).

It is recognized that implementation of this procedure will increase communications, but this can be minimized if pilots will employ it only when there is a reasonable chance that a missed approach may occur.

Approach Clearance

Pilots will be advised of the ceiling, visibility, wind, runway, altimeter setting and approach aid being used immediately prior to descent when direct IFR controller-pilot communications (DCPC) are employed.

When an approach clearance is issued the name of the approach as published will be used to designate the type of approach.

Example: CLEARED TO THE TORONTO AIRPORT ILS RUNWAY 05 LEFT APPROACH.
 CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH.

The runway on which the aircraft is to land will be included in the approach clearance when a landing is to be made on a runway other than aligned with the instrument approach aid being used.

Example: CLEARED TO THE OTTAWA AIRPORT, STRAIGHT-IN ILS RUNWAY 07 APPROACH,
 CIRCLING PROCEDURE FOR RUNWAY 32.

Terminal Radar Service

Radar separation is applied to arriving aircraft in order to establish and maintain the most desirable arrival sequence to avoid unnecessary "stacking". In the approach phase, radar vectoring is carried out to establish the aircraft on an approach aid. Aircraft are vectored so as to intercept the final approach course approximately 2 miles from the point at which final descent will begin. In the case of a precision radar approach, the aircraft is vectored by surveillance radar to a predetermined position, at which point control is transferred to the precision radar controller for the "talk-down".

Examples: JWC, ARRIVAL, 3 MILES FROM THE OUTER MARKER. TURN LEFT HEADING 170 TO INTERCEPT FINAL APPROACH COURSE. CLEARED TO THE TORONTO AIRPORT FOR STRAIGHT-IN ILS RUNWAY 14 APPROACH.

or, for radar approach -

JWC, ARRIVAL, TURN LEFT HEADING 170 FOR FINAL APPROACH. 8 MILES FROM THE AIRPORT. CLEARED TO THE TORONTO AIRPORT FOR A PRECISION RADAR APPROACH, RUNWAY 14.

Straight-in Approaches

ATC uses the term "straight-in approach" to indicate: An instrument approach wherein final approach is begun without first having executed a procedure turn.

Precision Approach Radar Monitoring of ILS Approaches

PAR monitoring of ILS front or back course approaches will be provided at locations served by precision approach radar whenever the ceiling is reported at or below 500 feet, the visibility is reported at or below one mile, or when requested by the pilot.

Monitoring will begin when the aircraft passes the final approach fix or when the aircraft is four nautical miles from the end of the runway, whichever point is further from the runway. At this point the pilot will be requested to report when he has the runway in sight.

Advisory information will normally be transmitted on the localizer "voice" feature. When the localizer voice feature is not available, the primary "Precision" frequency will be used.

When approach clearance is issued, the pilot will be informed of the frequency on which the monitoring information will be transmitted.

Examples: FOR RADAR MONITORING, LISTEN ON LOCALIZER VOICE, CONTACT MONTREAL TOWER ON 119 DECIMAL 1 NOW.

FOR RADAR MONITORING, CONTACT MONTREAL PRECISION ON 118 DECIMAL 0 NOW.

If monitoring cannot be provided, the pilot will be informed.

Example: RADAR MONITORING NOT AVAILABLE.

When an approach is monitored, the following information will be provided:

- (a) Distance from "touchdown" point, at each one nautical mile interval from touchdown.
- (b) Notice that the aircraft has passed the final approach fix.
- (c) Position of the aircraft in relation to the final approach course and the glide path. This information will be issued in conjunction with the distance from touchdown information and whenever the aircraft deviates from the final approach course or glide path in excess of specified limits.

NOTE: Glide path information is not issued during a back course approach, since the descent paths of these approaches generally do not coincide with the depicted PAR glide path.

- (d) Warning of any situation which, in the controller's judgement, is likely to affect the safety of the flight.

Provision of advisory information will be terminated and the pilot so informed when:

- (a) The pilot reports the runway in sight, or
- (b) When the aircraft reaches the end of the runway.

When approaches are being monitored, the radar serves only as a secondary aid, since the pilot has chosen the ILS as the primary aid for the approach. Accordingly, controllers have been cautioned to avoid superfluous transmissions which might distract the pilot from the conduct of the approach.

Visual Approaches

A visual approach in relation to IFR operation may be defined as that part of an approach by an IFR flight executed by means of visual reference to the surface of the earth.

Visual approaches have operational application under three distinct situations:

1. The pilot of an IFR flight performing his own navigation encounters environmental conditions favouring this type of an approach.
2. The pilot of an IFR flight being radar vectored for an approach encounters conditions as in 1.

In 1 and 2 the onus is on the pilot to request clearance for a visual approach. This may be issued by the controller provided that the reported ground visibility is equal to or greater than one statute mile and traffic conditions permit.

3. In order to gain operational advantages, the controller may initiate visual approach clearance to the pilot of an IFR flight being radar vectored for an approach provided:

- (a) The reported ceiling is at least 500 feet above the minimum radar vectoring altitude and the ground visibility is at least 5 statute miles.
- (b) The pilot reports sighting the airport.
- (c) The pilot reports sighting any preceding IFR or VFR traffic.

Radar separation from any preceding IFR aircraft will be provided until the clearance for visual approach is issued. Radar service will be terminated when the pilot is told to contact the tower. The tower will assign a landing sequence number.

Transponder Equipped Aircraft

Transponders should be adjusted to "stand-by" or "off" as soon as practicable after landing is completed.

EMERGENCIES

DECLARATION OF EMERGENCY

Whenever pilots are faced with an emergency situation, ATC expects the pilot will take whatever action is considered necessary. ATC will assist pilots in any way possible whenever an emergency is declared. Pilots are requested to advise ATC as soon as practicable of any deviations from altitude or route necessitated by an emergency situation, in order that every effort can be made to minimize confliction with other aircraft. Pilots are reminded that they may be asked by ATC for a written report concerning the nature of a declared emergency.

Pilots of transponder equipped aircraft, when experiencing an emergency and unable to establish communications immediately with an air traffic control unit, may indicate "Emergency" to ATC by adjusting the transponder to reply on Mode A/3, Code 77. Thereafter, radio communications should be established with ATC as soon as possible.

It should be pointed out that, when use is made of Code 77, the signal may not be detected because the aircraft may not be within the range off SSR coverage.

COMMUNICATIONS FAILURE IN IFR FLIGHT

All pilots and operators are urged to study the "Communications Failure in IFR Flight Order" (Air Navigation Order, Series V, No. 5).

While it is not proposed to repeat the contents of this Air Navigation Order, the following points of major importance are emphasized:

- A. Should a communication failure occur when operating in VFR weather conditions, or should VFR weather conditions be subsequently encountered, the pilot must continue to fly in VFR weather conditions and land at the nearest suitable aerodrome;
- B. Should the failure occur when operating in IFR weather conditions and should VFR weather conditions not be encountered, the pilot shall:
 - (1) except under the circumstances covered in (2) proceed to the aerodrome of first intended landing in accordance with the flight plan as amended by clearances and instructions received and acknowledged, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher; and on reaching the facility to be used for approach, commence a complete instrument approach at whichever of the following times is the latest:
 - (a) the time of arrival, or
 - (b) the estimated time of arrival last notified to and acknowledged by air traffic control, or
 - (c) the expected approach time last received and acknowledged.
 - (2) if flying a turbine-powered (turbo-propeller or turbo-jet) aircraft and cleared on departure to a point other than destination, proceed to the destination aerodrome in accordance with the flight plan, maintaining the last assigned altitude or flight level, or the minimum enroute IFR altitude, whichever is the higher, until ten minutes beyond the point specified in the clearance (clearance limit) and then proceed at the altitude(s) or flight level(s) filed in the flight plan. On reaching the facility to be used for approach at the destination aerodrome, commence a complete instrument approach at either the time of arrival or the estimated time of arrival last notified to and acknowledged by air traffic control, whichever is the later.
- C. If a communication failure occurs after the pilot has received holding instructions and the procedure in B is being followed, he shall leave the holding point at the time specified in the clearance, the expected further clearance time, or the expected approach time, whichever has been issued.

If a communication failure occurs while an aircraft is being radar vectored, the pilot should proceed by a direct route from the point of the communication failure to the fix, course or airway specified in the vector instruction, taking due account of procedures set out in ANO Series V, No. 5.

When air traffic control clears a turbine-powered aircraft to the aerodrome of first intended landing, it will be at an altitude or flight level considered operationally suited to these aircraft. In these circumstances, should a communications failure occur, it will be possible for the aircraft to

proceed to the aerodrome of first intended landing at the assigned altitude or flight level. It is the responsibility of the pilot to advise ATC whenever the initially assigned altitude will not permit the aircraft to proceed to the airport of destination if a communication failure should occur.

On flights from Canada to the United States, should a communication failure occur prior to crossing the border, the pilot of a turbine-powered aircraft, who is complying with para. B (2), will consider the altitude at which he has flight planned for the border crossing segment of the route as the last assigned altitude for the purpose of complying with the United States communications failure regulations on entering United States airspace. When the aircraft will enter United States airspace within 10 minutes after passing the clearance limit, climb to the flight planned border crossing altitude is to be commenced at the estimated time of crossing the Canada/United States boundary.

Pilots of transponder-equipped aircraft, when experiencing a two-way communications failure, may indicate the situation to ATC by selecting Mode A/3 Code 76. This action is an indication of the situation only, and does not relieve the pilot of the requirement to comply with the "Communications Failure in IFR Flight Order" (ANO Series V, No. 5).

NOTE: When use is made of Code 76, the signal may not be detected either because the aircraft is not within SSR coverage or because the ATC unit concerned is using SSR equipment which does not automatically detect Code 76.

Should a situation develop for which there is no laid down procedure, the pilot-in-command will be expected to act in accordance with his own judgement. In any event, ATC will protect the airspace in the immediate vicinity of the aerodrome of first intended landing for a period of 30 minutes from the time at which the aircraft is expected to commence approach.

REPORTING MALFUNCTIONS OF NAVIGATION AND COMMUNICATIONS EQUIPMENT

The pilot-in-command of an aircraft in IFR flight within controlled airspace shall report immediately to the appropriate air traffic control unit any malfunction of navigation or air/ground communications equipment.

Examples:

- (a) loss of VOR, ADF or low frequency navigation capability, or
- (b) complete or partial loss of ILS capability, or
- (c) impairment of air/ground communications capability, or
- (d) impairment of transponder serviceability.

Having received this information, Air Traffic Control will take into account any limitations in navigation or air/ground communications equipment and control the aircraft accordingly.

EMERGENCY RADAR SERVICE TO VFR FLIGHTS

Radar equipped ATC units will provide all possible assistance to VFR flights which are unable to remain VFR, or are in any type of emergency or distress. Pilots desiring radar assistance for other reasons should refer to the section of this manual entitled "Radar Navigation Assistance to VFR Flights".

Emergency radar assistance will be given to VFR flights which are able to maintain two-way radio communication with the unit, are within radar coverage, and can be radar identified.

Pilots requiring radar assistance during emergency conditions should contact the nearest ATC unit and provide the following information:

- (a) Declaration of emergency (state nature of difficulty and type of assistance required).

- (b) Position of aircraft and weather conditions within which the flight is operating.
- (c) Type of aircraft, altitude, and whether equipped for IFR flight.
- (d) Whether pilot has an IFR Rating.

FLIGHT INFORMATION SERVICE

GENERAL

Flight information service is provided by air traffic control units to assist pilots of aircraft by supplying information concerning known hazardous flight conditions. This information will include data concerning unfavourable flight conditions and other known hazards, which may not have been available to the pilot prior to take-off or which may have developed along the route of flight.

The air traffic control service has been established primarily for the prevention of collisions and the expediting of traffic. The provision of such service will take precedence over the provision of flight information service, but every effort will be made to provide flight information and assistance.

Flight information will be made available, whenever practicable, to any aircraft in communication with an air traffic control unit, prior to take-off or when in flight except where such service is provided by the aircraft operator. Many factors (such as volume of traffic, controller workload, communications frequency congestion and limitations of radar equipment) may prevent a controller from providing this service.

VFR flights will be provided with information concerning:

- (a) Severe weather conditions along the proposed route of flight;
- (b) Changes in the serviceability of navigation aids;
- (c) Conditions of airports and associated facilities;
- (d) Other items considered pertinent to the safety of flight.

IFR flights will be provided with information concerning:

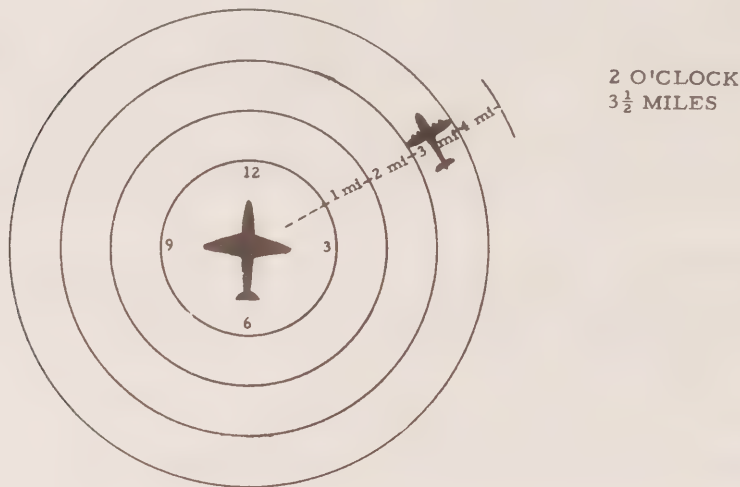
- (a) Severe weather conditions;
- (b) Weather conditions reported or forecast at destination or alternate aerodrome;
- (c) Changes in the serviceability of navigation aids;
- (d) Condition of airports and associated facilities;
- (e) Other items considered pertinent to the safety of flight.

Flight information messages are intended as information only. If a specific action is suggested, the message will be prefixed by the term "ATC SUGGESTS..." or "SUGGEST YOU..." and the pilot will be informed of the purpose of the suggested action. The pilot is responsible for making the final decision concerning any suggestion.

Surveillance radar equipment is frequently used in the provision of information concerning severe weather conditions, chaff drops, bird activity and possible traffic conflicts. Due to limitations inherent in all radar systems, aircraft, weather disturbances, etc., cannot be detected in all cases.

When issuing radar information, ATC will frequently define the relative location of traffic, weather areas, etc., by referring to the "clock" position system. A pilot receiving such information may determine the approximate location of traffic, weather, etc., in relation to his track which, regardless of direction, is always considered as 12 o'clock.

The following diagram illustrates the "clock" system.



Traffic information in this case will be issued as follows:

"TRAFFIC, 2 O'CLOCK 3 1/2 MILES, NORTHWEST-BOUND".

NOTE: The relative speed and the type of aircraft and altitude if known will be given.

BIRD ACTIVITY INFORMATION

Information concerning bird activity, obtained through controller's observations or pilot reports, will be provided to aircraft operating in the area concerned. In addition, pilots may be warned of possible bird hazards if radar observation indicates the possibility of bird activity. Information will be provided concerning:

- (a) Size or species of bird, if known.
- (b) Location.
- (c) Direction of flight.
- (d) Altitude, if known.

CHAFF INFORMATION

ATC will provide pilots who intend to operate through the area concerned with all available information relating to proposed or actual chaff drops.

- (a) Location of the chaff drop area.
- (b) Time of drop.
- (c) Estimated speed and direction of drift.
- (d) Altitudes likely to be affected.
- (e) Relative intensity of chaff.

SEVERE WEATHER INFORMATION

Whenever practicable, ATC will provide flights with severe weather information pertinent to the area concerned. Pilots may assist ATC by providing pilot reports of severe weather conditions which they encounter. ATC will endeavour to suggest alternate routes available in order to avoid areas in which severe weather exists.

Radar-equipped ATC units can often provide information on the location and movement of areas of heavy precipitation. However, during severe weather conditions the radar may be adjusted to eliminate or reduce radar returns from heavy precipitation areas in order to permit the detection of aircraft. When requested by a pilot, and provided traffic conditions permit, controllers will provide the pilot with detailed information on the location of heavy precipitation areas.

RADAR TRAFFIC INFORMATION

ATC will provide IFR and CVFR flights with information on observed radar targets whenever it is believed the traffic will be of concern to the pilot, unless the pilot states he does not want the information. This information may be provided to VFR aircraft when requested by the pilot.

If requested by the pilot, ATC will attempt to provide radar separation between identified IFR aircraft and the unknown observed aircraft.

Traffic information, when passed to radar-identified aircraft will be issued as follows:

- 1. Position of the traffic in relation to the aircraft.
- 2. Direction in which the traffic is proceeding.
- 3. Type of aircraft and altitude, if known, or the relative speed of the traffic.

Example:

TRAFFIC, 10 O'CLOCK, 6 MILES, SOUTHEAST-BOUND, (type of aircraft and altitude, or relative speed).

An aircraft not radar-identified would be issued traffic information in the following manner:

- 1. Position of the traffic in relation to a fix.
- 2. Direction in which the traffic is proceeding.
- 3. Type of aircraft and altitude, if known, or relative speed.

Example: TRAFFIC, 7 MILES SOUTH OF QUEBEC NDB, NORTHBOUND, (type of aircraft and altitude, or relative speed).

RADAR NAVIGATION ASSISTANCE TO VFR FLIGHTS

When requested by pilots, radar-equipped ATC units will provide assistance to navigation in the form of position information, vectors or track and ground speed checks. Flights requesting this assistance must be operating within areas of radar and communication coverage and be radar-identified.

VFR flights may be provided this service:

- (a) at the request of a pilot, when traffic conditions permit, or
- (b) when the controller suggests and the pilot concurs, or
- (c) in the interest of flight safety.

The responsibility for avoiding other aircraft and maintaining flight in VFR weather conditions remains with the pilot of a VFR flight being provided with radar vectors.

If a radar vector will lead a VFR flight into IFR weather conditions the pilot must inform the controller and take the following action:

- (a) if practicable, obtain a vector which will allow the flight to remain in VFR weather conditions, or
- (b) if an alternative vector is not practicable, revert to navigation without radar assistance, or
- (c) if the pilot has an IFR rating and the aircraft is equipped for IFR flight, he may file an IFR flight plan, and request an IFR clearance.

AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS)

Automatic Terminal Information Service (ATIS) is the continuous broadcast of recorded non-control information on a VOR or discrete VHF/UHF frequency.

ATIS messages are recorded in a standard format and contain such information as:

- (i) Current weather at the airport, including ceiling and sky condition, visibility, obstructions to visibility, temperature, dew point and altimeter setting.
- (ii) The type(s) of instrument approach and runway(s) in use for arriving aircraft.
- (iii) The runway(s) in use for departing aircraft.
- (iv) NOTAM or excerpts from NOTAM regarding the serviceability of pertinent aids to navigation and field conditions which would affect arriving or departing aircraft.

Each recording will be identified by a phonetic alphabet code letter, beginning with "ALPHA". Succeeding letters will be used for each subsequent message.

Example of ATIS Message:

"THIS IS TORONTO INTERNATIONAL AIRPORT INFORMATION BRAVO. TORONTO WEATHER: TWO THOUSAND SCATTERED, MEASURED CEILING THREE THOUSAND OVERCAST, VISIBILITY FIVE, HAZE; TEMPERATURE SIX FIVE, DEW POINT SIX ZERO; WIND ONE THREE ZERO AT TEN; ALTIMETER TWO NINER NINER TWO. EXPECT ILS RUNWAY ONE FOUR APPROACH. LANDING RUNWAY ONE FOUR. DEPARTURES ON RUNWAY ONE ZERO. NOTAM, GLIDE PATH ILS RUNWAY ZERO FIVE RIGHT OUT OF SERVICE UNTIL FURTHER NOTICE. INFORM TORONTO ATC ON INITIAL CONTACT THAT YOU HAVE RECEIVED INFORMATION BRAVO."

NOTE: Current time and RVR measurements will not be included in the ATIS message, but will be issued in accordance with current practices.

Pilots hearing the broadcast should inform the ATC unit on first contact (centre, terminal, ground, tower, etc.) that they have received the information, by repeating the code word which identifies the message, thus obviating the need for the controller to issue information.

Example: "..... HAVE RECEIVED INFORMATION BRAVO".

During periods of rapidly changing conditions which would create difficulties in keeping the ATIS message current, the following message will be recorded and broadcast:

"BECAUSE OF RAPIDLY CHANGING WEATHER/AIRPORT CONDITIONS, CONTACT ATC FOR CURRENT INFORMATION".

The success and effectiveness of ATIS is largely dependent upon the cooperation and participation of airspace users, therefore, pilots are strongly urged to take full advantage of this service.

TRANSMISSION OF METEOROLOGICAL INFORMATION TO ARRIVING AIRCRAFT

The term CAVOK (KAV-OH-KAY) may be used in air-ground communications when transmitting meteorological information to arriving aircraft.

CAVOK will refer to the simultaneous occurrence of the following meteorological conditions:

- (a) cloud: no cloud of any amount below 5000 feet;
- (b) visibility: 6 miles or more;
- (c) weather: no precipitation or thunderstorm.

This term, coupled with other elements of meteorological information such as wind direction and velocity, altimeter setting and pertinent remarks, will be used in transmissions directed to arriving aircraft and, where applicable, in the composition of ATIS messages. A pilot, on receipt of CAVOK, may request that detailed information be provided.

CAVOK does not apply to the provision of meteorological information to enroute aircraft and, therefore, will not be used when such information is transmitted to aircraft engaged in that particular phase of flight.

The incorporation of CAVOK in Canadian aeronautical terminology is in keeping with a recommendation of the International Civil Aviation Organization (ICAO) Fifth Air Navigation Conference that the term be implemented for use on a world-wide basis.

SPECIAL PROCEDURES

EDMONTON ARCTIC CONTROL AREA

Effective April 2, 1970, Canadian controlled airspace at Flight Level 290 and above will be extended to the North Geographic Pole. The new control area will be designated the Edmonton Arctic Control Area (ACA). On the above effective date the Edmonton Upper Flight Information Region is cancelled.

The Edmonton Arctic Control Area is designated as the navigable airspace at Flight Level 290 and above within the following prescribed area and within which air traffic control service is provided. Commencing at the North Geographic Pole; thence to 69°00'N, 141°00'W; to 72°00'N, 129°00'W; to 72°00'N, 92°05'W; to 74°00'N, 68°18'W; to 76°00'N, 76°00'W; to 78°00'N, 75°00'W; to 82°00'N, 60°00'W; to the point of beginning. The area is depicted on the accompanying chart.

Air Traffic Control Service is provided from the Edmonton Area Control Centre to all aircraft operating within the Edmonton Arctic Control Area.

All flights operating within the Edmonton Arctic Control Area are requested to comply with the following flight planning, reporting and communication procedures.

Flight Planning

Flight plans should be filed in accordance with ICAO flight planning procedures. The route of flight should be defined by listing, in latitude and longitude, sufficient geographical points to adequately portray the intended track, including the significant reporting points which are required and which are detailed below.

Position Reporting

Unless otherwise requested by Air Traffic Control, flights operating within the Edmonton Arctic Control Area shall make position reports in accordance with ICAO AIREP format, including Section 3.

Three significant meridians of longitude have been selected as position reporting lines for the Edmonton Arctic Control Area. These position reporting lines are coincident with the 140°W, 115°W and 60°W meridians.

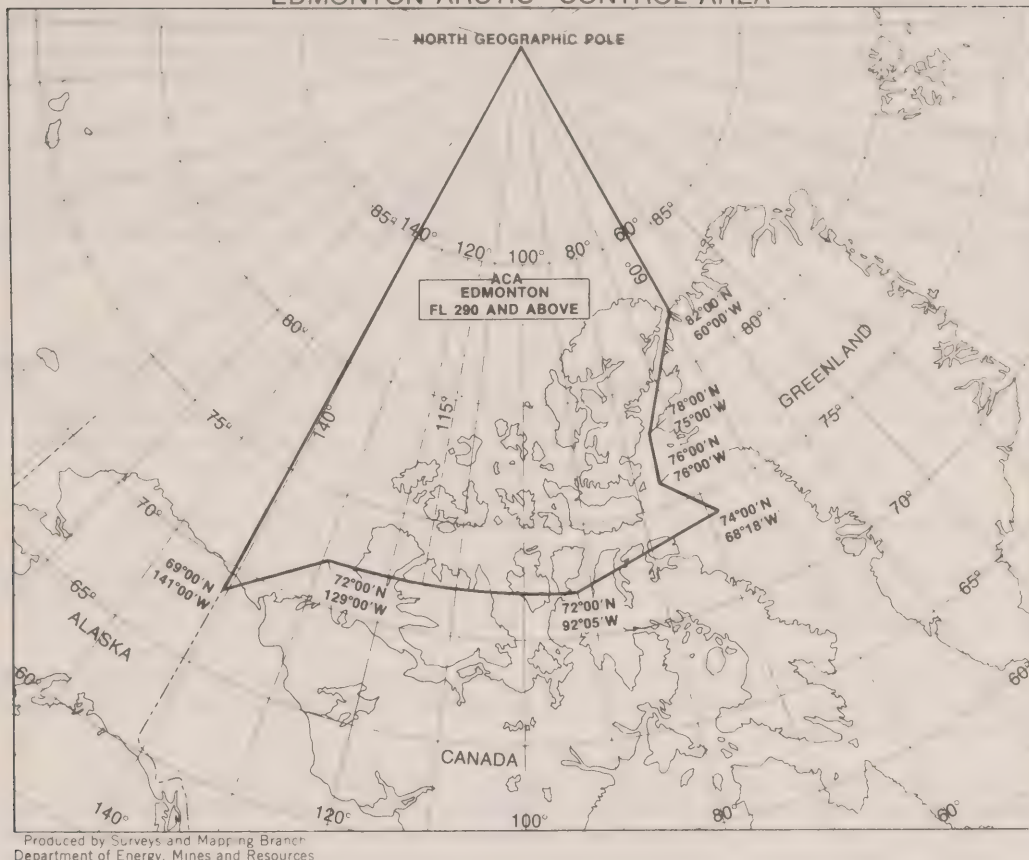
- (i) Flights traversing the ACA shall report the point at which the position lines of the 140°W, 115°W and 60°W meridians are crossed. If crossing the ACA North of 85°N latitude the 115°W position report is not required.
- (ii) Flights which do not cross the 60°W meridian on entry or prior to entry within the ACA shall report their point of entry into the ACA.
- (iii) Flights which do not cross the 140°W meridian after entry within the ACA shall report their point of entry into the ACA.
- (iv) Flights which do not cross the 60°W meridian on leaving or after leaving the ACA shall report their point of exit from the ACA.
- (v) Flights which do not cross the 140°W meridian prior to leaving the ACA shall report their point of exit from the ACA.
- (vi) Generally northbound or southbound flights which will not cross the significant position reporting lines shall report their points of entry and exit from the ACA.

Air/Ground Communications

The Cambridge Bay Aeradio Station is the primary air/ground communication station serving the Edmonton Arctic Control Area.

Communication should be established with Cambridge Bay on one of the international high-frequencies of 5624, 8913.5 or 13328 kHz on entry or prior to entry into the area and a listening watch on this station maintained while in the area, unless otherwise instructed. If communication cannot be established with Cambridge Bay, contact should be established through Resolute, Edmonton, Frobisher, Churchill or other International Stations on published frequencies.

EDMONTON ARCTIC CONTROL AREA



NORTH ATLANTIC OCEANIC CONTROL PROCEDURES

Flight Planning Procedures for Westbound North Atlantic Non-Stop Flights

Pilots of potential non-stop westbound flights may flight plan to any suitable aeronautical radio facility or designated intersection east of 70°00'W, and in addition, specify route and altitude to any of the approved Regular or Alternate aerodromes listed in the current DOT Information Circular on "USE OF AERODROMES BY AIRCRAFT ENGAGED IN INTERNATIONAL AIR CARRIER OPERATIONS" for use as the flight planned alternate.

Prior to reaching the flight planned fix or clearance limit, the pilot, after assessing the on-ward flight conditions, will normally file to the airport of ultimate destination and will request an ATC clearance accordingly. However, should it be determined that flight to the airport of destination is undesirable, the pilot will file to a regular or alternate airport and request an appropriate ATC clearance.

If for any reason an onward ATC clearance from the flight planned fix is not obtained by the time the fix is reached, the pilot must proceed towards the alternate in the manner specified in the flight plan or amendments thereto.

This procedure is designated only to facilitate the operation of certain types of aircraft in use on the North Atlantic with a long range capability. It is not designed or intended to increase the use of any of the approved Alternates, except under proper circumstances. Any abuse of the procedure may result in the arrangement being cancelled.

Arrangements for Reduced Lateral Separation

Eastbound aircraft on diverging tracks from North America which are separated by 60 nautical miles within 250 nautical miles of a ground navigational facility will be deemed to have lateral separation provided the tracks diverge to establish 120 nautical miles separation at the next designated reporting point.

Flight Planning Procedures

All generally eastbound or westbound aircraft planning to operate within the Gander Oceanic Control Area must flight plan so that specified ten degrees of longitude (60°00'W, 50°00'W, 40°00'W, 30°00'W) as applicable are crossed at whole degrees of latitude. Generally northbound or southbound aircraft must flight plan so that specified parallels of latitude spaced at 5° intervals (65°00'N, 60°00'N, 55°00'N, etc.) are crossed at whole degrees of longitude.

All flights must operate on a great circle track joining successive significant points.

"Estimated Elapsed Times" (EET) now required for North Atlantic Operations are replaced by "Estimated Times Over Significant Points Enroute" (EST) and are to be inserted in Item 18 of the ICAO flight plan

TAS is to be inserted in Item 15 of the form, except for those stage lengths along the route of flight within the NAT Region where Mach number techniques are employed. In this area, speed shall be indicated as a Mach number.

Pilots entering the Gander Oceanic Control Area may expect that an abbreviated clearance will be issued when Air Traffic Control clears the aircraft to follow one of the organized tracks which are preplanned by ATC to organize and accommodate the oceanic traffic during peak traffic periods. If a pilot is cleared on other than an organized track, ATC will specify full details of the cleared track within the clearance.

When an abbreviated clearance is issued, it will include the cleared track which will be specified by a code letter, the flight level at which the aircraft is cleared, the Mach number to be maintained and, if the aircraft is designated to report meteorological information, the pilot will be advised by the inclusion in the clearance of the phrase "Send Met. Reports". On receipt of this abbreviated clearance, the pilot shall read back to the issuing authority the full details of the track specified by the code letter and in addition the other contents of the clearance. The New York, Moncton and Gander Area Control Centres in issuing clearances for eastbound flights over the North Atlantic on an organized track will identify the track to be used by one of the last five letters of the alphabet. As part of the preflight planning, operators are to ensure that their crews have the current organized track information which is issued by the Gander Area Control Centre.

Position Reporting Procedures

Unless otherwise requested by Air Traffic Control, flights operating within the Gander Oceanic Control Area shall make position reports in accordance with the reporting procedures detailed in ICAO DOC 7030 to Gander (Primary) or Goose (Secondary) on the appropriate international air/ground frequencies as follows:

- (a) Predominantly north/south flights shall report at each significant point listed in the flight plan.
- (b) Westbound flights shall report at 30°00'W, 40°00'W, 50°00'W and, if crossed north of 53°00'N, the Domestic/Oceanic boundary. In addition, all flights which are operating below Flight Level 290 shall also report at 45°00'W.

- (c) Eastbound flights shall report at 50°00'W, 40°00'W, 30°00'W and, if crossed north of 53°00'N, the Domestic/Oceanic boundary.

All flights operating in that portion of the Gander Oceanic Control Area over Southern Greenland and the adjoining waters at FL 160 and above should report primarily to Gander, or, alternatively to Goose, Prins Christian Sund or Frobisher, on international air/ground frequencies.

In addition to maintaining a listening watch on the appropriate enroute frequency, flights are to establish communication with Gander, Moncton, Saglek or Frobisher, whichever is appropriate, as soon as possible, and maintain a listening watch in accordance with the following:

NOTE: For each location, the first two frequencies listed are the primary frequencies.

1. Within 200 nautical miles of Gander, Saglek and Frobisher at or above FL 290, and of Goose at or above FL 240:
 - (a) Gander - Call Gander Centre - 133.9, 294.5, 384.5, 125.9 or 124.8 MHz.
 - (b) Saglek - Call Saglek Radio - 122.2 or 364.2 MHz.
 - (c) Frobisher - Call Frobisher Radio - 122.2, 287.0 or 126.7 MHz.
- Call Frobisher International Radio - 126.9 MHz.
 - (d) Goose - Call Moncton Centre - At or above FL 350 - 133.4 MHz.
- At or below FL 330 - 133.1 MHz.
2. Within 150 nautical miles of Gander, Saglek and Frobisher below FL 290, and of Goose below FL 240:
 - (a) Gander - Call Gander Centre - 119.7, 294.5, 119.9 or 384.5 MHz.
 - (b) Saglek - Call Saglek Radio - 122.2 or 364.2 MHz.
 - (c) Frobisher - Call Frobisher Radio - 122.2, 287.0 or 126.7 MHz.
- Call Frobisher International Radio - 126.9 MHz.
 - (d) Goose - Call Moncton Centre - 120.4, 294.5, 132.4 or 324.3 MHz.
3. Westbound flights at any level within 150 nautical miles of Sydney, excluding flights established on designated airways: Call Moncton Centre - 134.4, 266.3 or 118.2 MHz.

Eastbound flights which traverse the Gander Domestic FIR in the high level structure between the hours 2300 GMT and 0800 GMT daily, are (in addition to monitoring the appropriate sector frequency) required to establish contact on the Gander clearance delivery frequency 119.4 MHz unless otherwise directed, when within 200 miles of Gander.

In these position reporting procedures, the pilot shall normally identify the subsequent position to report as the significant point at which the aircraft is next required to report its position. If the estimated time over the next significant point is found to be in error by five minutes or more, a revised estimated time shall be transmitted as soon as possible to the appropriate Air Traffic Control Unit. For turbo-jet aircraft, the Mach number shall be included in the position report only when this information is specifically requested by Air Traffic Control.

All pilots operating aircraft within the Gander Oceanic Control Area under the Instrument Flight Rules shall make, record and report on a routine basis meteorological observations at each designated reporting point. This stipulation applies whether the aircraft is eastbound or westbound; however, aircraft which are cleared on an organized track are not required to make such observations or reports unless specifically requested to do so within their Air Traffic Control Clearance.

Mach Numbers

The following procedures are applicable to jet aircraft equipped with Mach Meter systems and operating in the Gander Oceanic Control Area:

- (a) The Mach number approved by ATC shall be adhered to within a tolerance of plus or minus zero point zero one (0.01) and ATC approval shall be requested before making any change. If it is necessary to make an immediate temporary change in Mach number (e. g. , due to turbulence), ATC must be notified as soon as possible that such a change has been made.
- (b) ATC will include in each clearance an approved Mach number.
- (c) Operators are requested to ensure that Mach meter systems of aircraft be carefully calibrated in order to allow correct use of this equipment.

ADVANCED FLOW CONTROL PROCEDURES

Advanced Flow Control Procedures (AFCPs) have been developed by the United States Federal Aviation Administration to provide its Air Traffic Control system and its users with some reasonable degree of arrival delay prediction. They have been initially implemented for the New York area airports, John F. Kennedy (JFK), La Guardia (LGA) and Newark (EWR).

AFCP's are designed to:

- (a) Hold aircraft on the ground at departure points to absorb arrival delay in excess of one hour.
- (b) Distribute delays equitably among all users.
- (c) Limit holding in New York Centre's area to one hour or less provided sufficient demand can be maintained on the ATC system to preclude gaps in the arrival sequence.
- (d) Eliminate enroute holding of traffic destined for Newark, La Guardia and Kennedy, in other than New York Centre's airspace.

Application of AFCP's will be based on the following:

- (a) Each IFR aircraft destined for Newark, La Guardia or Kennedy airport should file a flight plan so as to reach the departure Air Traffic Control Centre (ACC) at least $1\frac{1}{2}$ hours prior to the proposed departure time.
- (b) The departure ACC will assign a time of departure to each flight and advise the facility with which the flight plan was filed of this time at least one hour prior to the filed proposed departure time.
- (c) Pilots or operators must then call the facility with whom they filed and obtain their assigned time of departure.
- (d) Pilots will be expected to make good their assigned time of departure within plus or minus 15 minutes, unless otherwise instructed or restricted by ATC.
- (e) Upon receipt of an Advanced Flow Control Restriction (AFCR) message from the New York Centre, controllers of the concerned ACCs will notify their respective facilities that AFCRs are in effect for aircraft destined for Newark, La Guardia and Kennedy airports and specify ground delays as noted in the message. This early notification is designed to let operators be aware that they may experience a ground delay; specific delays will not be known until the assigned times of departure have been computed.

Montreal and Toronto Air Traffic Control Centres are participating in Advanced Flow Control Procedures. All aircraft destined for one of the three New York city airports that depart within the areas controlled by Toronto and Montreal ACCs may be affected.

In the interest of minimizing enroute delays or eliminating intermediate landings which probably would otherwise be necessary, pilots and operators are urged to extend their co-operation in recognizing and complying with these procedures.

EXTENDED TERMINAL CONTROL SERVICE - GENERAL

In the interest of improving flight safety in terminal areas, the air traffic control system of the Department of Transport will implement Extended Terminal Control Service in terminal areas around major Canadian airports.

Under the present system, radar surveillance is provided to IFR flights routinely and to VFR flights on request. The new service will employ radar for the surveillance, control and integration of all participating flights operating in a defined Extended Service Area. Participating flights will consist of all IFR flights and those VFR flights whose pilots wish to receive the service.

Airspace around other airports within the area will be defined and capped at suitable altitudes. Aircraft using this airspace will operate under normal existing rules and procedures.

All participating flights operating within the Extended Service Area and the control zone around the major airport will be directed via radar vectors, radio or visual reporting points. Therefore, it will be necessary for pilots of these flights to establish radio contact with ATC prior to operating within the Extended Service Area and the control zone serving the major airport and to maintain communication while operating within these areas.

The service will not relieve pilots of the responsibility for maintaining a sharp lookout for other aircraft, avoiding IFR weather conditions and maintaining adequate obstacle clearance.

Visual separation may be used when a pilot informs ATC that he has his traffic in sight and has confirmed that he will be able to maintain visual separation. It will require that participating pilots be capable of maintaining communication with the appropriate ATC units, that they abide by ATC clearances and that they be prepared to accept such direction as will allow effective integration into a smooth air traffic flow. They will be required, for example, to follow ATC directives or radar vectors, provided compliance will not result in their entering weather conditions below the VFR weather minima. If it becomes apparent to a pilot that compliance would have this result, he must advise ATC immediately and will receive alternative instructions. As some VFR flights may not be equipped to utilize existing navigation aids, prominent geographical fixes for reporting, routing and holding purposes will be designated. Extreme care will be taken in selecting these fixes to ensure that they are readily identifiable from the air. Selected visual fixes will be depicted on charts and included in relevant Information Publications.

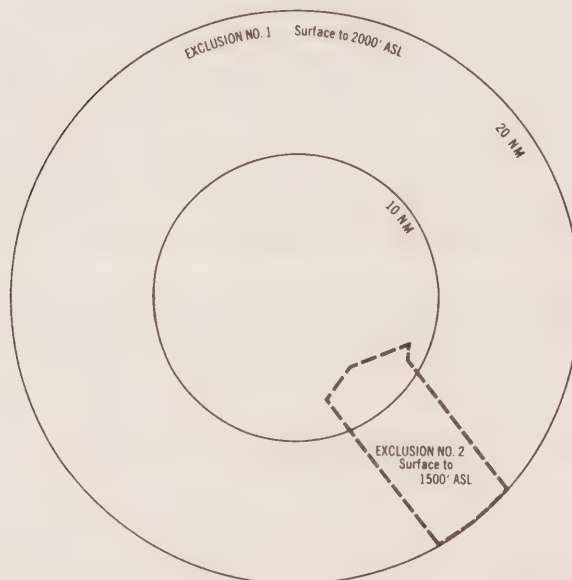
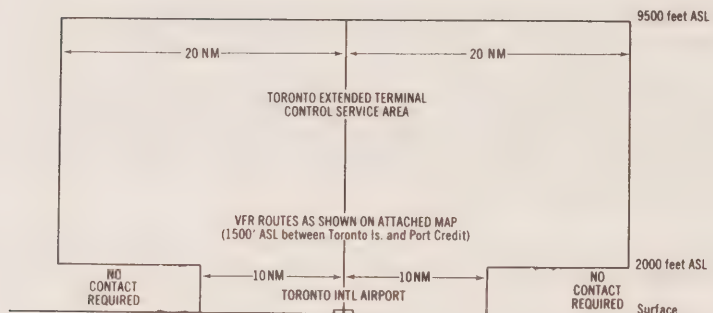
Amendments and additions to this NOTAM will be published detailing for each selected location, where and when the service is to be implemented, the dimensions of the Extended Service Area and other related areas, the pilot and ATC procedures to be employed, and the radio frequencies and reporting points to be used.

EXTENDED TERMINAL CONTROL SERVICE - TORONTO, ONTARIO

The objective of this service is to provide participating VFR flights with radar surveillance, traffic information and other services previously provided only to IFR flights, in order to more efficiently control the flow of IFR and VFR arrivals and departures at the two major airports (Toronto International and Downsview) and to integrate this traffic with other flights transiting the area.

The Toronto Extended Terminal Control Service Area (ETCSA) is defined as that airspace contained within a 20 nautical mile radius of the Toronto International Airport from the surface up to 9500 feet ASL, with the following exclusions:

- (1) The airspace between the 10 and 20 nautical mile radius of the Toronto International Airport from the surface to 2000 feet ASL.
- (2) The VFR route between the western perimeter of the Toronto Island Control Zone to Port Credit and the airspace south of this route to the outer perimeter of the ETCSA, which is from the surface to 1500 feet ASL.



The control zones and corridors within the ETCSA are defined as follows:

- (a) Buttonville, Downsview and Toronto Island control zones - within a three nautical mile radius of the centre of the respective airports and extending vertically to 2000 feet ASL.
- (b) Toronto International Control Zone - within a five nautical mile radius of the centre of the Toronto International Airport and extending vertically to 2000 feet ASL.



Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

NUMBERED VISUAL AIDS

- 1 Burlington - Skyway Bndge
- 2 Waterdown
- 3 Campbellville - Mohawk Race Track
- 4 Acton - Beardmore Plant (in centre of town)
- 5
- 6 Orangeville
- 7 Tottenham
- 8 Aurora - Green Water Tank (in centre of town)
- 9 Markham
- 10 Fairport Beach

SCALE
0 5 10
Nautical Miles

LEGEND

- Control zones**
- TORONTO 117.4** VORTAC
- Non-directional radio beacon
- Boundary of VFR route

VFR Routes

In order to accommodate VFR pilots wishing to avoid the ETCSA and to help ATC to differentiate between such flights and those operating within the ETCSA, VFR routes have been established along normal traffic flow patterns outside the 10 miles perimeter of the Toronto International Airport. Accordingly, pilots of aircraft operating to or from the following airports are requested to adhere to the following VFR routes at or below the altitudes specified. These routes are two miles wide and are shown on the attached chart. Traffic operating via these routes should fly so as to keep the centreline of such routes on their left. It is recognized that itinerant pilots may not be familiar with these routes and, if requested, ATC will provide the necessary assistance.

(1) Toronto Island to Buttonville

East via the Lakeshore to the Greenwood Racetrack then via the Don Valley Parkway to Highway 401 direct to Buttonville, altitude 2000 feet ASL or below.

(2) Toronto Island to Kitchener/Waterloo, Guelph

West via the Lakeshore to Port Credit, altitude 1500 feet ASL or below, Port Credit to Oakville, altitude 2000 feet ASL or below, then direct to destination.

(3) Buttonville/Maple/King to Kitchener and Guelph and Hamilton

Buttonville Airport direct Maple Airport direct Bolton, direct Brampton Airport, direct Georgetown; altitude 2000 feet ASL or below, then direct to destination.

NOTE: Pilots may leave or enter these routes, avoiding the ETCSA, at any point along the routes, EXCEPT TOWARDS THE AREA OF HIGH TERRAIN DEPICTED ON THE ATTACHED CHART.

AS ALL IFR FLIGHTS ARE ROUTINELY INVOLVED, IN THE INTEREST OF IMPROVING FLIGHT SAFETY WITHIN THIS AREA, ALL PILOTS OPERATING IN ACCORDANCE WITH THE VISUAL FLIGHT RULES WHO NEED TO OPERATE WITHIN THE EXTENDED SERVICE AREA ARE TO COMPLY WITH THE FOLLOWING FLIGHT PROCEDURES.

Flight Procedures

IFR Flights - Current IFR procedures will apply to IFR flights operating within the Toronto Extended Terminal Control Service Area.

Special VFR Flights - will not be approved within the Toronto International Airport Positive Control Zone, helicopters excepted.

VFR Flights - Prior to entering and/or operating within the Toronto Extended Terminal Control Service Area, pilots must establish and maintain radio communication with Toronto Terminal Control on 119.3 MHz or 125.4 MHz.

Radar identification of aircraft operating within the ETCSA is of prime importance in the provision of an effective service. For this reason, arriving and transiting aircraft shall enter the ETCSA over, or as near as possible to, those navigation aids or numbered visual aids depicted on the attached chart. Also, pilots shall contact Toronto Terminal when over or approaching those navigation or numbered visual aids. Aircraft equipped with DME or a transponder may enter at any point provided contact is established with Toronto Terminal immediately prior to entering the ETCSA.

Pilots are requested to provide the Terminal upon initial contact their geographical position, altitude and destination.

Example: Pilot: TORONTO TERMINAL THIS IS ALPHA BRAVO CHARLIE, OVER.

Terminal: ABC TORONTO TERMINAL, OVER.

Pilot: TORONTO TERMINAL ABC OVER ORANGEVILLE, 5000 LANDING
TORONTO INTERNATIONAL.

Terminal will provide necessary information or instructions.

Aircraft operating within the excluded areas shall not contact Toronto Terminal Control except those aircraft intending to land at the Toronto International or Downsview Airports. Pilots intending to use navigation and/or approach aids within the ETCSA for training purposes are required to obtain prior approval from Toronto Terminal Control before take-off from their respective airports.

Aircraft operating wholly within the Toronto International, Toronto Island, Downsview and Buttonville control zones shall maintain communications with the control tower controlling the zone.

Any ATC instruction issued to VFR flights is based on the firm understanding that a pilot will advise ATC immediately if compliance with the instruction would result in his not being able to maintain adequate terrain or obstruction clearance, or to continue flight in accordance with the Visual Flight Rules. If so advised, ATC will issue alternate instructions.

ATC Procedures

When aircraft are within radar coverage, controllers may request arriving, departing or transiting aircraft to report their position in relation to radio or prominent geographical fixes, which may be within or outside the perimeter of the extended service area. These reports will assist ATC to radar identify the aircraft.

To the extent possible, traffic information, flight information and radar navigation assistance will be provided to VFR flights.

VFR aircraft may be provided with routing instructions in the ETCSA.

Radar vectors may be given to VFR flights operating within the ETCSA when:

- (a) Vectoring is requested by the pilot.
- (b) Vectoring is suggested to and accepted by the pilot.

- (c) Vectoring is necessary to position an aircraft in the approach sequence.
- (d) The controller considers that vectoring is necessary for safety of flight.

An altitude may be assigned to a VFR aircraft when considered necessary.

If these services to aircraft entering the ETCSA cannot be provided, or if service is terminated before an aircraft leaves the area, the pilot will be so informed by ATC.

THESE PROCEDURES ARE NOT TO BE INTERPRETED AS RELIEVING PILOTS OF THEIR RESPONSIBILITY TO SEE AND AVOID OTHER TRAFFIC, TO MAINTAIN APPROPRIATE TERRAIN AND OBSTRUCTION CLEARANCE, OR TO REMAIN IN WEATHER CONDITIONS EQUAL TO OR BETTER THAN THE PUBLISHED VFR MINIMA.

SPECIAL VFR PROCEDURES - VANCOUVER INTERNATIONAL AIRPORT

In order to maintain a safe and orderly flow of IFR and VFR traffic within the Vancouver Control Zone during Special VFR weather conditions, the following procedures apply.

Holding areas have been established for the use of VFR aircraft awaiting clearance to enter the Vancouver Control Zone during Special VFR weather conditions as follows:

- (i) Point Grey Jetty - A circular left-hand pattern centred on the end of the North Arm Jetty.
- (ii) Spanish Banks - A circular left-hand pattern centred on the Point Grey Bell Buoy.
- (iii) Steveston - A circular left-hand pattern centred on a point on the south bank of the South Arm of the Fraser River directly opposite the village of Steveston.
- (iv) Lightship - A circular left-hand pattern centred on the Lightship.

Corridors between the airport and the approved holding areas have been established for use by Special VFR aircraft as follows:

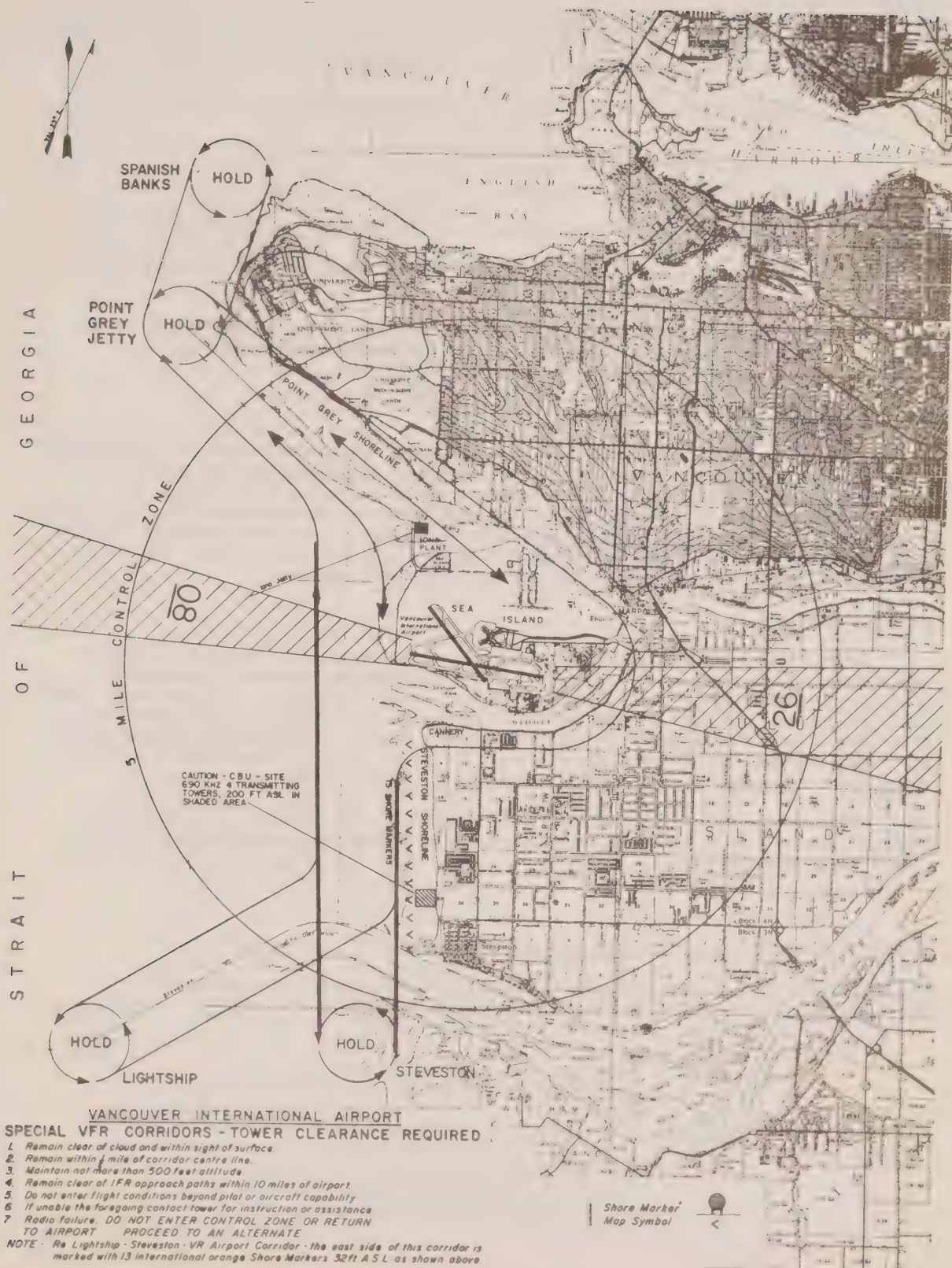
- (i) Point Grey Shoreline - via the west shore of Sea Island and the south side of the Fraser River Jetty to/from Point Grey.
- (ii) Steveston Shoreline - via the west shore of Lulu Island to/from Steveston and via the Steveston Jetty to Lightship.

NOTE: The east side of this corridor is marked with 13 International orange Shore Markers 32 feet above sea level.

As indicated on the attached chart, this corridor lies along the west side of the CBU radio transmitting site with towers and guy wires rising to 200 feet ASL.

Pilots are advised to use the Shore Markers as a guide to remain clear of the transmitting towers yet within the prescribed corridor.

- (iii) Point Grey North Arm - via the north arm of the Fraser River and the north side of the Fraser River Jetty to/from Point Grey.



General Procedures

It is necessary for pilots using the Special VFR corridors to adhere to the following:

- (i) Refrain from entering flight conditions beyond pilot or aircraft capability.
- (ii) Remain clear of cloud and within sight of the ground or water at all times.
- (iii) Maintain an altitude of not more than 500 feet.
- (iv) Remain within $\frac{1}{2}$ mile of the corridor centreline.
- (v) Remain clear of IFR approach paths when within 10 miles of the airport.
- (vi) If unable to comply with any of the foregoing requirements, contact the tower for instructions or assistance.
- (vii) In the event of communications failure, DO NOT ENTER THE CONTROL ZONE OR RETURN TO THE AIRPORT - PROCEED TO AN ALTERNATE.

Departure Procedures

When requesting taxi clearance, a pilot should inform the airport controller of the flight's destination in order that, when possible, use of the corridor most appropriate to direction of intended flight may be authorized. On occasion, because of weather or traffic, it may be necessary for the airport controller to clear a flight to depart via a corridor leading away from destination. In this case the flight is to proceed via the approved corridor to a point beyond the control zone boundary and then, remaining well clear of the zone, continue to destination. Such a flight is not to re-enter the control zone without further ATC approval.

Arrival Procedures

Arriving VFR flights should contact Vancouver Tower well before reaching the control zone. When necessary, the airport controller will suggest that the flight hold in a specific holding area until traffic conditions permit issue of an approach clearance. The controller will provide an approximate time of entry into the control zone and information on any known traffic at the holding point. In each case the pilot has to decide whether he will hold or proceed elsewhere, and inform the tower accordingly. The controller will be able to issue clearance to the airport via an approved corridor only after the pilot reports in a specific holding area.

While the procedures outlined above will be normally used for Special VFR flight in the Vancouver Control Zone, S/VFR flights outside of the corridors will be approved from time to time if traffic permits.

POSITIVE CONTROL ZONES

An increase in aircraft operations and wide variations in aircraft performance characteristics have necessitated changes in flight procedures at controlled airports. In the interest of safety, all control zones served by a control tower have been or will be designated as Positive Control Zones in accordance with Air Navigation Order Series V, No. 21, which became effective on June 26, 1969.

The following control zones have been designated as Positive Control Zones:

+ Argentia, Nfld.	Oshawa, Ont.
+ Bagotville, Que.	Ottawa International, Ont.
+ Borden, Ont.	Penticton, B.C.
Buttonville, Ont.	Pitt Meadows, B.C.
Calgary International, Alta.	+ Portage, Man.
+ Chatham, N.B.	Quebec, Que.
+ Cold Lake, Alta.	Regina, Sask.
+ Comox, B.C.	+ Rivers, Man.
+ Downsview, Ont.	St. Hubert, Que.
Edmonton Industrial, Alta.	Saskatoon, Sask.
Edmonton International, Alta.	+ Shearwater, N.S.
+ Gimli, Man.	Springbank, Alta.
+ Goose, Nfld.	+ Summerside, P.E.I.
+ Greenwood, N.S.	Toronto International, Ont.
Halifax, N.S.	Toronto Island, Ont.
Hamilton, Ont.	+ Trenton, Ont.
Kamloops, B.C.	+ Val D'Or, Que.
London, Ont.	Vancouver International, B.C.
Montreal International, Que.	Victoria International, B.C.
+ Moose Jaw, Sask.	Waterloo-Wellington, Ont.
+ Namao, Alta.	Windsor, Ont.
	Winnipeg International, Man.

+ Served by a Department of National Defence control tower.

The following control zones will be designated as Positive Control Zones, effective June 26, 1970:

Abbotsford, B.C.	Port Hardy, B.C.
Baie Comeau, Que.	Prince George, B.C.
Brandon, Man.	St. Andrews, Man.
Fort St. John, B.C.	Saint John, N.B.
Fredericton, N.B.	Sept-Iles, Que.
Gander International, Nfld.	Sydney, N.S.
Lethbridge, Alta.	Thunder Bay, Ont.
Moncton, N.B.	Toronto, Nfld.
North Bay, Ont.	Whitehorse, Y.T.

Note: Dimensions of control zones are defined in the Designated Airspace Handbook.

The following procedures apply when the control tower is in operation. (For Procedures which may apply at other times, refer to NOTAM Special Procedures and Facilities - Land Aerodromes.)

VFR Flights

Prior to operating within a Positive Control Zone, a pilot must:

- Establish radio communication with the control tower;
- Inform the control tower of his intentions (i.e., whether to land at, or take-off from, an airport within the zone or to proceed through the zone);
- Obtain a clearance authorizing the intended operation;
- Obtain the altimeter setting and set the aircraft altimeter.

While operating within a Positive Control Zone, pilots must maintain a listening watch on the control tower frequency.

If a radio communication failure occurs while within the zone, pilots shall:

- (a) Maintain VFR;
- (b) Land as soon as practicable at any suitable airport;
- (c) Inform the control tower, as soon as practicable, of the circumstances of the failure.

Aircraft without functioning two-way radio may enter or depart from a Positive Control Zone if the pilot has obtained prior approval from the control tower.

IFR Flights

Pilots of IFR flights shall communicate with the appropriate ATC unit in accordance with current regulations and procedures.

RADAR ADVISORY SERVICE - WINDSOR, ONTARIO

The Windsor Positive Control Zone is defined as that airspace within 10 NM radius of the centre of the Windsor airport from the ground to 2600 feet ASL excluding that portion lying within the confines of the U.S.A.

The Detroit Metro terminal facility provides a radar advisory service to all aircraft operating between 2600 and 4000 feet ASL above the Windsor control zone. To obtain this service pilots should contact Detroit Metro approach control on 125.15 or 123.7 MHz and "Request Radar Service".

INFORMATION CONCERNING THE CONDUCT OF SCATANA TESTS

Pilots are advised that procedures have been developed for testing the effectiveness of the agencies and communications facilities which would be employed should it become necessary to implement the Security Control of Air Traffic and Air Navigation Aids Rules (ANO, Series V, No. 14, Part VI). These procedures will be exercised from time to time without advance notice.

These tests should in no way inconvenience aircraft in flight other than to make a routine acknowledgement of the test message which may be transmitted to them. The normal test message will read as follows:

"THIS IS A SCATANA TEST. REPEAT. THIS IS A SCATANA TEST. ALL AIRCRAFT WILL ACKNOWLEDGE THIS MESSAGE AND CONTINUE NORMAL OPERATIONS".

As these tests are considered essential to national security, the co-operation of all pilots and agencies is necessary.

NOTAM



CANADA

Aerodromes - Land ^{Government}

13/70
30th April

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

SPECIAL PROCEDURES EDMONTON INTERNATIONAL, EDMONTON INDUSTRIAL AIRPORTS AND NAMAO AERODROME, ALBERTA

(Supplementing NOTAM 23/68 and superseding information concerning
Edmonton International, Edmonton Industrial and Namao in NOTAM 23/68
and NOTAM 5/70, as applicable)

General

The close proximity of Edmonton International, Edmonton Industrial Airports and Namao aerodrome, and an increase in VFR and IFR operations with wide variations in aircraft performance characteristics, has necessitated the introduction of special procedures as an interim to the implementation of Extended Terminal Control Service. These procedures become effective immediately.

Flight Procedures

The procedures outlined in ANO, Series V, No. 21, entitled "Positive Control Zone Order" apply to the Edmonton International, Edmonton Industrial and Namao positive control zones. These zones are defined in the Designated Airspace Handbook. (Class II NOTAM 10/70 also refers) Pilots of VFR aircraft intending to penetrate these zones are requested to establish communications with the appropriate tower at least 15 miles from the respective airport. Upon initial contact pilots should advise the tower of their geographical position in relation to a prominent land mark, altitude and destination. Aircraft enroute to Edmonton Industrial from the North or South should contact the Edmonton International or Namao Control Tower whichever is appropriate if operating within 15 miles of either airport. The above procedures are intended to assist ATC in providing VFR pilots with information concerning possible conflicting IFR or VFR traffic.

Sport Aviation and Training Areas

Two areas have been established and are depicted on the accompanying chart. The Spruce Grove area extends upwards from the surface of the earth to and including 6000 feet ASL. The Cooking Lake area extends upwards from the surface of the earth to and including 5000 feet ASL.

IFR aircraft will routinely be cleared above the caps of these areas. It is recommended that enroute VFR aircraft avoid these areas if practicable.

VFR Routes

VFR routes have been established between the Edmonton Industrial Positive Control Zone and the Sport Aviation and Training Areas. These routes are capped at 4000 feet ASL and are depicted on the accompanying chart.

To Spruce Grove - remain North of Highway No. 16
From Spruce Grove - remain South of Highway No. 16
To Cooking Lake - proceed direct Sherwood Park cloverleaf direct Cooking Lake Airport
From Cooking Lake - return direct Sherwood Park town.

IFR Arrivals

To minimize possibilities of conflict between IFR and VFR aircraft, arriving IFR aircraft will not normally be cleared for descent below 5000 feet ASL until they are established in the final approach area and are within 12 nautical miles of the Edmonton International and Edmonton Industrial airports, or within 15 nautical miles of runway 11-29 at Namao aerodrome.

EDMONTON INDUSTRIAL AIRPORT

Traffic Circuits

Right-hand circuits are in effect for runways 21, 29 and 34.

Weight Restriction

The use of this airport is restricted to aircraft not exceeding 120,000 pounds maximum gross weight.

VFR Departure Routes

It is recommended that departing aircraft leaving the control zone use the following routes:

To the North - proceed direct to the Eastern boundary of the town of St. Albert

To the West - proceed direct via the North side of Highway No. 16 to abeam Winterburn

To the South - proceed direct to Quesnell Bridge

To the East - proceed direct to Sherwood Park cloverleaf.

Noise Abatement - Arrival and Departure Procedures

Runway 03-21 - restricted to daylight operations only.

Runway 16-34 - to be used during calm (no wind) conditions.

Runway 11 - aircraft gross weight for take-off restricted to 12,500 pounds.

Runway 29 - aircraft gross weight for landing restricted to 30,000 pounds between 2100 and 0700 hours MST.

Departing IFR aircraft all runways - climb to at least 3,200 feet ASL on runway heading before proceeding on course.

Simulated Instrument Approaches - descent below published minimum is not permitted unless a full stop landing is intended. ILS missed approaches are to be commenced at the middle marker.

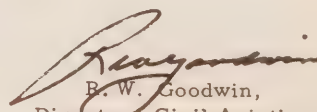
EDMONTON INTERNATIONAL AIRPORT

Noise Abatement Procedure

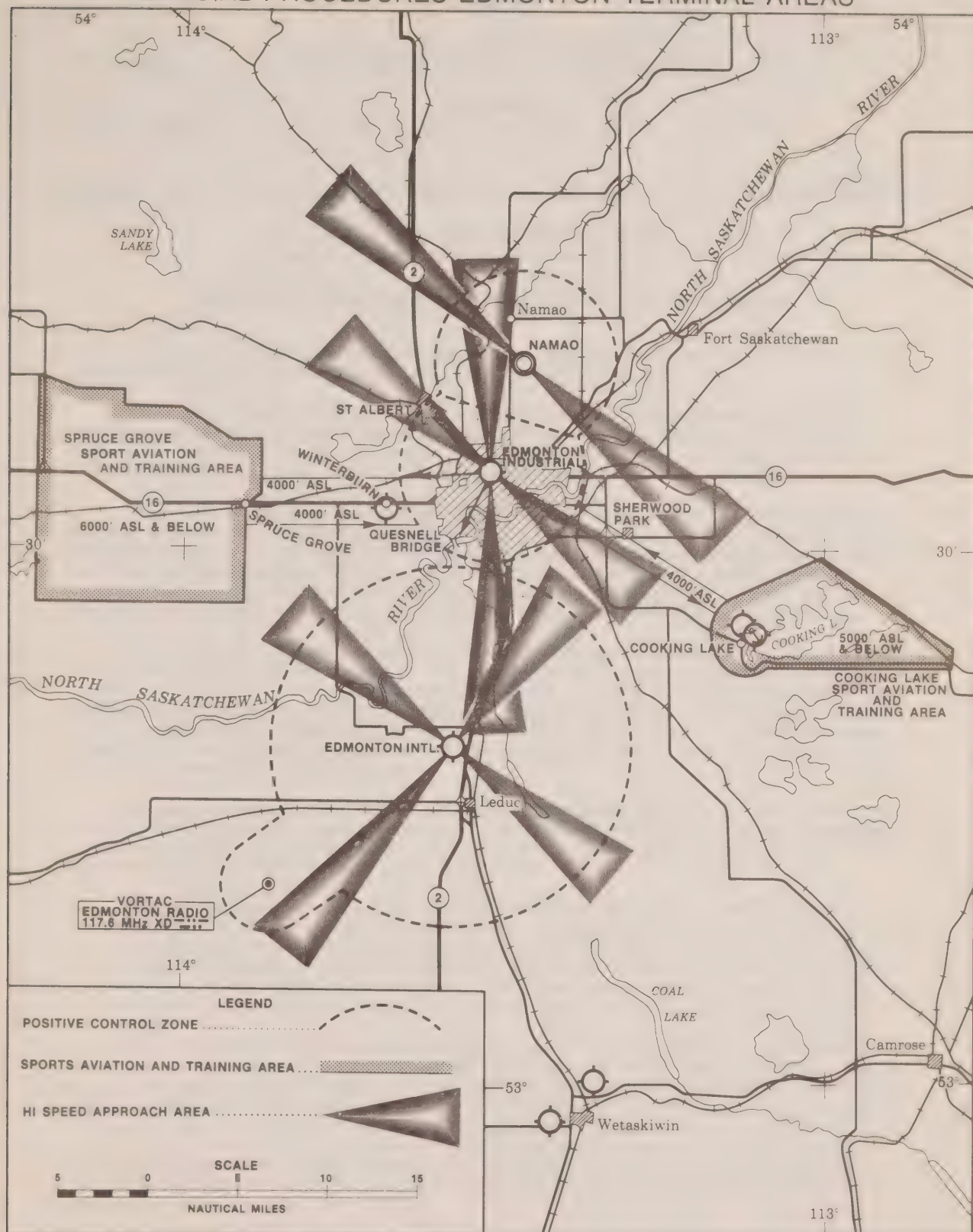
Aircraft departing Runway 11 are to climb to at least 3,200 feet ASL on runway heading before proceeding on course.

NAMAO AERODROME

Right-hand circuits are in effect for runways 20 and 29.


B. W. Goodwin,
Director, Civil Aviation.

SPECIAL PROCEDURES-EDMONTON TERMINAL AREAS



NOTAM



Air Traffic Control

14/70
1st May

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 3

AIR TRAFFIC CONTROL PROCEDURES (Supplementing the ATC Procedures NOTAM 12/70)

PREFERENTIAL ROUTE SYSTEM - NORTHERN CONTROL AREA

The volume and concentration of international flights between Europe and Western North America has created a daily problem of track confliction in Canadian Airspace.

This confliction is created by the random flight planning of eastbound and westbound tracks traversing the Northern Control Area (NCA) between Baffin Island and the Western Provinces. Since these tracks are compressed within a relatively narrow band of airspace, it is difficult for air traffic control to obtain maximum utilization of the airspace.

In order that this flow of air traffic may be accommodated efficiently, a Preferential Route System has been established within the NCA. This system consists of three Main Tracks, designed to provide lateral separation between flights and to facilitate the application of the Mach number technique by ATC as necessary to establish longitudinal separation and six Lateral Tracks provided to facilitate the orderly transition of aircraft between the main tracks. These tracks are described below and are depicted on the chart attached as Appendix "A".

ATC will clear aircraft to operate within the Preferential Route System whenever the volume of traffic warrants such action. It is recommended that pilots planning to operate international flights northeast bound or southwest bound in the area, and who plan flight closer than 90 nautical miles to a Main and/or Lateral Track should flight plan via the system track nearest to their planned minimum time track. This will apply particularly to flights expected to operate in the area during the period of traffic congestion which occurs at the present time between the hours of 1700 to 2300 GMT.

It may be expected, that a Class I NOTAM activating the Preferential Route System will be issued prior to the commencement of the 1970 summer air traffic. Pilots may flight plan entry into the Preferential Route System at a navigational aid or at the reporting points coincident with 100°, 90°, 80° and 70° west longitude.

When ATC clears an aircraft via a Main Track, the track will be specified by code name only. Pilots will be expected to read back the complete route of the track specified, (For example: clearance - "via Alpha Track"; readback - "via Alpha Track, Cape Christian, Mackar Inlet, 65 North, 100 West; Fort Smith".) in addition to any other items contained in the clearance. When a flight is cleared via a track outside the Preferential Route System or is cleared via a Lateral Track, detailed route instructions will be included in the clearance.

When flight is made along a Main Track or a Lateral Track, position reports shall be made over fixed reporting lines coincident with 100°, 90°, 80° and 70° west longitude. Except as required over designated compulsory reporting points or as requested by Air Traffic Control, position reports over navigational aids within the Preferential Route System should not be made. When operating along a Main Track and forwarding a position report, the position will be expressed by the code name of the track and the reporting line meridian. When operating on a Lateral Track and reporting position, the position will be expressed by identifying the reporting meridian which crosses the track. The parallel of latitude need not be included in such a position report.

Preferential Route System - Northern Control Area

(a) Main Tracks:

Alpha Track - Cape Christian; direct Mackar Inlet; direct 65°00'N, 100°00'W; direct Fort Smith.

Bravo Track - Cape Hooper; direct Repulse Bay; direct Baker Lake; direct 63°00'N, 100°00'W; direct Uranium City.

Charlie Track - Cape Dyer; direct Coral Harbour; direct Chesterfield Inlet; direct 61°00'N, 100°00'W; direct Fort McMurray.

(b) Lateral Tracks:

Cape Christian; direct Chesterfield Inlet.


Cape Hooper; direct Coral Harbour.

Cape Dyer; direct Repulse Bay; direct 65°00'N, 100°00'W.

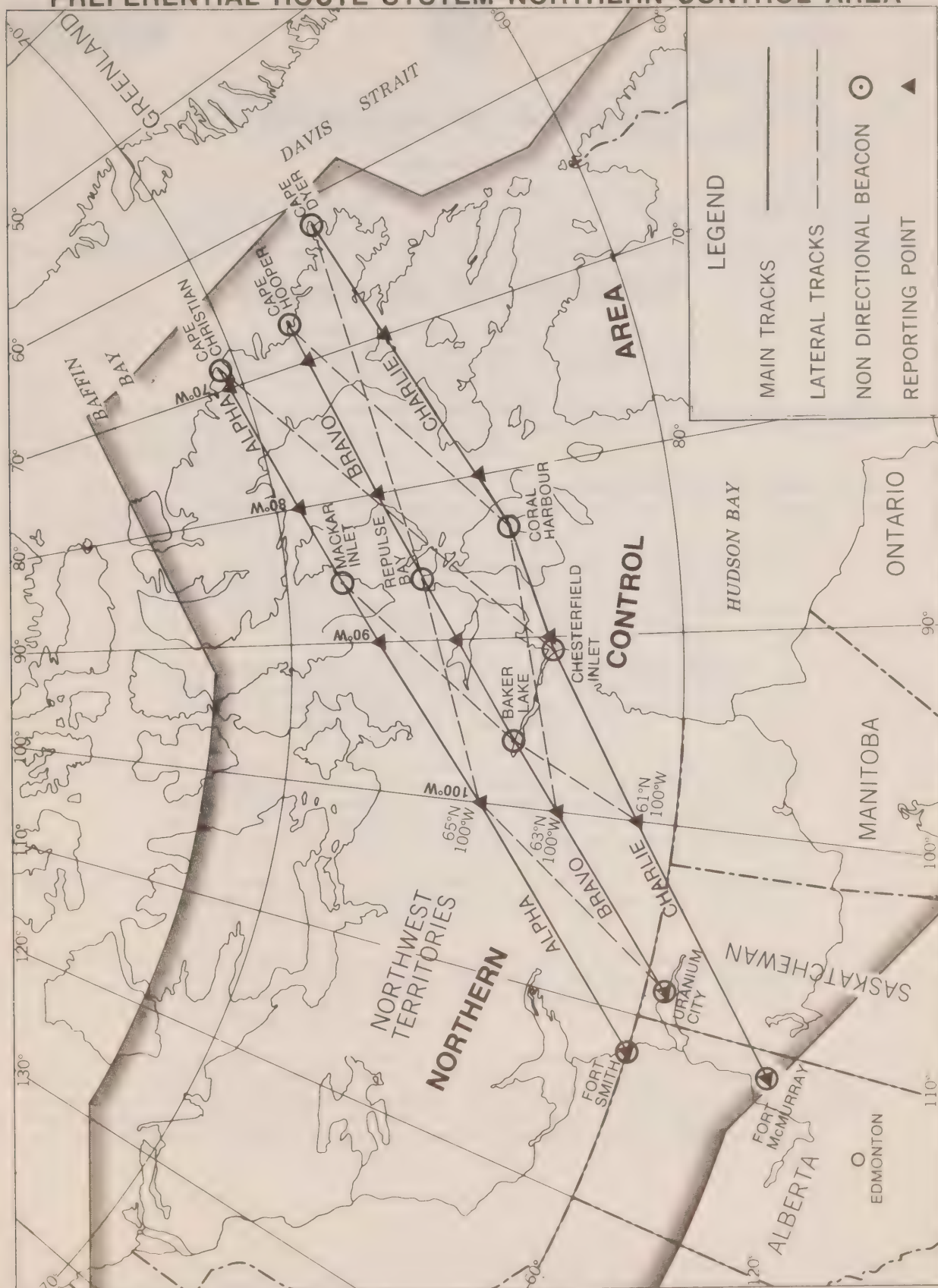
Coral Harbour; direct 63°00'N, 100°00'W.

Mackar Inlet; direct Baker Lake; direct 61°00'N, 100°00'W.

65°00'N; 100°00'W; direct Uranium City.


R. W. Goodwin,
Director, Civil Aviation.

PREFERENTIAL ROUTE SYSTEM-NORTHERN CONTROL AREA



NOTAM



Hazards and Obstructions

15/70
11th May

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 2

HAZARDS TO AIR NAVIGATION

ROCKET LAUNCHES FROM CHURCHILL
(Supplementing NOTAM 15/68 and superseding the item
Rocket Launches From Churchill in NOTAM 26/68)

All operators and pilots are notified that test-firings of rocket propelled vehicles will take place from the vicinity of Churchill, Manitoba, intermittently throughout the year, with the main activity confined to the period November 1st to July 15th annually.

Dependent on the characteristics of each rocket, the trajectory will cross all altitudes up to approximately 600,000 feet during a period not exceeding 30 minutes from the time of launch. The point of impact will lie within one of the following areas:

- AREA "A" Is delineated by a line commencing at a point 58°56'N, 94°00'W; thence proceeding due South to 57°18'N, 94°00'W; thence East to a point 57°20'N, 91°08'W; thence to 57°04'N, 90°00'W; thence due North to a point 59°46'30"N, 90°00'W; thence to the point of beginning.
- AREA "B" Is delineated by a line commencing at a point 59°46'30"N, 90°00'W; thence proceeding South to 57°04'N, 90°00'W; thence to 55°13'N, 82°30'W; thence to 55°28'N, 82°00'W; thence proceeding North to a point 61°27'N, 82°00'W; thence to the point of beginning.
- AREA "C" Is delineated by a line commencing at a point 55°28'N, 82°00'W; thence proceeding to 58°55'N, 78°28'W; thence due North to 63°15'N, 78°28'W; thence Westerly to 63°15'N, 83°00'W; thence to 60°21'N, 94°00'W; thence to 58°56'N, 94°00'W; thence to 59°46'30"N, 90°00'W; thence to 61°27'N, 82°00'W; and thence Southerly to the point of beginning.
- AREA "D" Is delineated by a line commencing at a point 63°15'N, 83°00'W; thence proceeding to 63°15'N, 90°00'W; thence to a point 60°21'N, 94°00'W; thence to the point of beginning.
- AREA "E" Is delineated by a line commencing at a point 57°18'N, 94°00'W; thence to 56°00'N, 94°00'W; thence to 56°00'N, 90°20'30"W; thence to 56°50'45"N, 88°59'20"W; thence to 57°04'N, 90°00'W; thence to 57°20'N, 91°08'W; thence to the point of beginning.

It is planned that the majority of rockets launched will impact at a point within AREA "A". However, on occasion impact AREAS "B" "C" "D" and "E" will be required. Insofar as it is feasible, radar and other devices and procedures will be used to exercise surveillance over the areas during the range operations. No rocket will be launched if it is known that an aircraft or ship is likely to be in a position as to be endangered by the trajectory or impact of a rocket.

A Class I NOTAM will be issued 24 hours in advance of each launch which will indicate the area within which the impact point lies. The airspace associated with the areas designated in Class I NOTAM will be released as soon as possible after impact is confirmed or if the operation is aborted. Every effort will be made to ensure minimum interference with aviation activities in the Hudson Bay region.

In view of the limited duration of each rocket and the safety precautions which are in effect, it is considered unnecessary for the areas to be designated as Danger Areas. Operators and pilots should watch for Class I NOTAM pertaining to rocket launches, and before traversing any part of the airspace over the areas described above, pilots should communicate with Churchill Radio or Winnipeg Air Traffic Control Centre, either directly or via the normal communication network.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Restricted Airspace

16/70
18th May

DEPARTMENT OF TRANSPORT

AIR SERVICES
CIVIL AVIATION BRANCH

Page 1 of 5

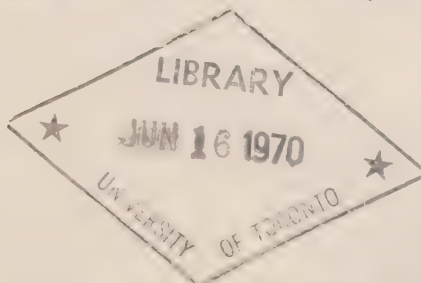
ROYAL VISIT - FLIGHT RESTRICTIONS CIVIL AIRCRAFT

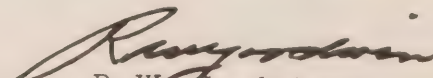
Under the authority vested in the Minister by the Aeronautics Act and the Air Regulations, certain restrictions will be imposed on the flight of civil aircraft during the visit of Her Majesty the Queen, Prince Philip, Duke of Edinburgh, The Prince of Wales and Princess Anne to Canada during July of 1970.

These restrictions are as follows:

- (a) except with the permission of the appropriate Air Traffic Control Unit, aircraft in flight shall not approach closer than 3 miles laterally and 4,000 feet vertically from the Royal aircraft while airborne, and
- (b) except as authorized by the Minister; or except when taking off from, or landing at, an airport; or except with the permission of the appropriate Air Traffic Control Unit, no aircraft shall be flown closer than 3 miles laterally and 4,000 feet vertically from the Royal party:
 - (i) during the time of any ceremony in which Her Majesty is taking part,
 - (ii) when the Royal party is on board C.N.R. Special Train, and
 - (iii) when the Royal party is in residence.

Following the arrival of the Air Canada DC-8 aircraft carrying the Royal party at Frobisher Airport at 1100 hrs. EDT on July 5, 1970, Her Majesty and members of the Royal party will follow the attached itinerary.




R. W. Goodwin,
Director, Civil Aviation.

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

NOTAM



Hazards and Obstructions

19/70
13th July

FEB 12 1971

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 3

HAZARDS TO AIR NAVIGATION

UNITED STATES AIRFORCE LOW-LEVEL TRAINING ROUTE
(Superseding the relevant items on Pages 5 and 6 of NOTAM 15/68, Page 1 of
NOTAM 13/69 and Part 5 of the Flight Information Manual)

Aircraft will follow the route shown on the chart below and remain within 4 NM of centreline. Altitudes will be in accordance with the chart, except that in the low-level portion aircraft may, in VFR weather conditions, descend to within 400 feet AGL.

Pilots are urged to exercise caution when flying in the vicinity of this route.

Details of daily schedules may be obtained by contacting MOT Aeradio Stations, or by calling collect Toronto Area Control Centre Tel. No. 676-3011.

Produced by Surveys and Mapping Branch
Department of Energy, Mines and Resources

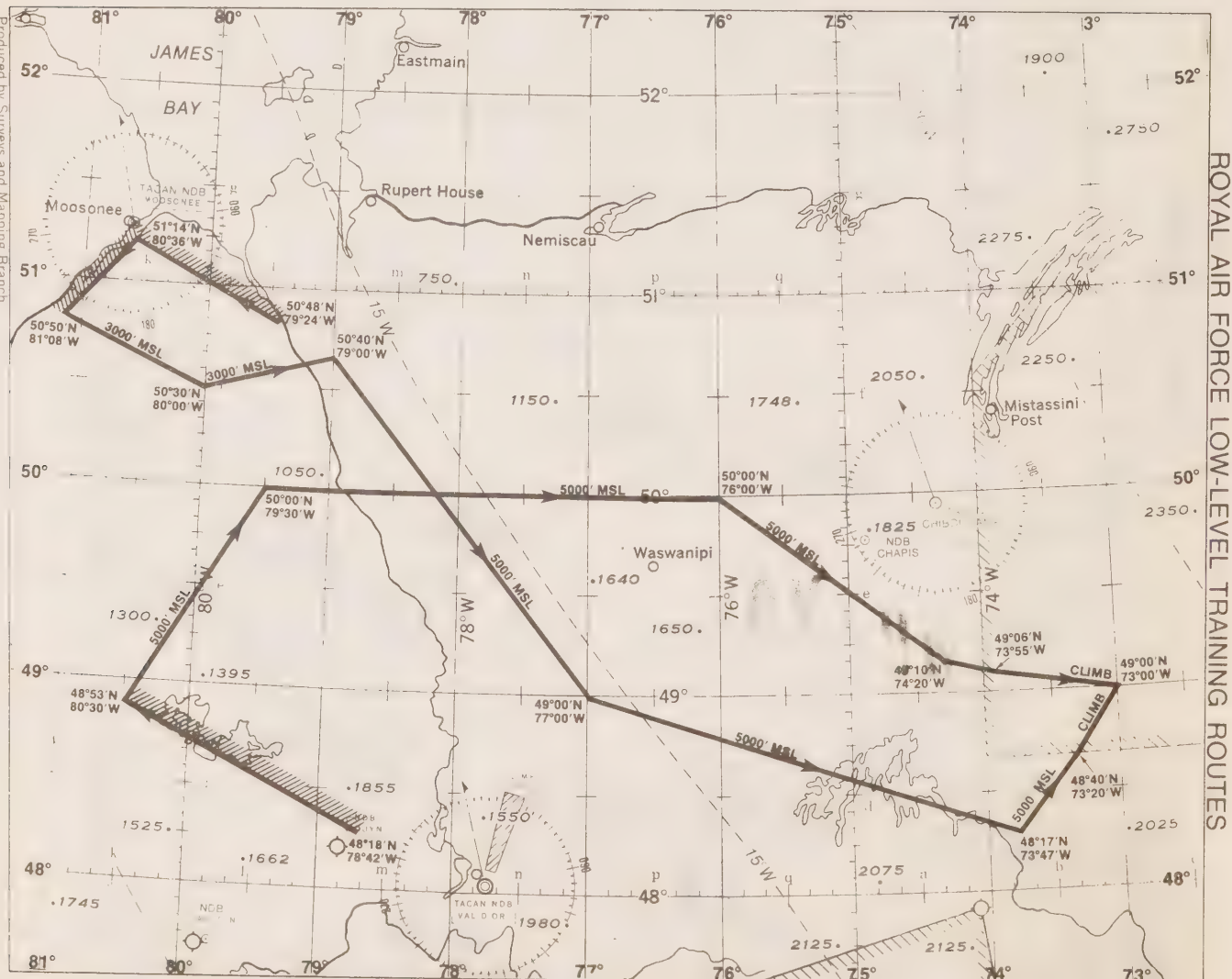


ROYAL AIRFORCE LOW-LEVEL TRAINING ROUTE

Aircraft will follow the route shown below and remain within 4 NM either side of centreline. In the DESCEND and CLIMB areas aircraft may be encountered between the low-level portions and FL 230. In the low-level portions aircraft may, in VFR weather conditions, descend to within 250 feet AGL.

Pilots are urged to exercise caution when flying in the vicinity of these routes.

Details of daily schedules may be obtained by contacting MOT Aeradio Stations, or by calling collect Toronto Area Control Centre Tel. No. 676-3011 or Montreal Area Control Tel. No. 636-3211.

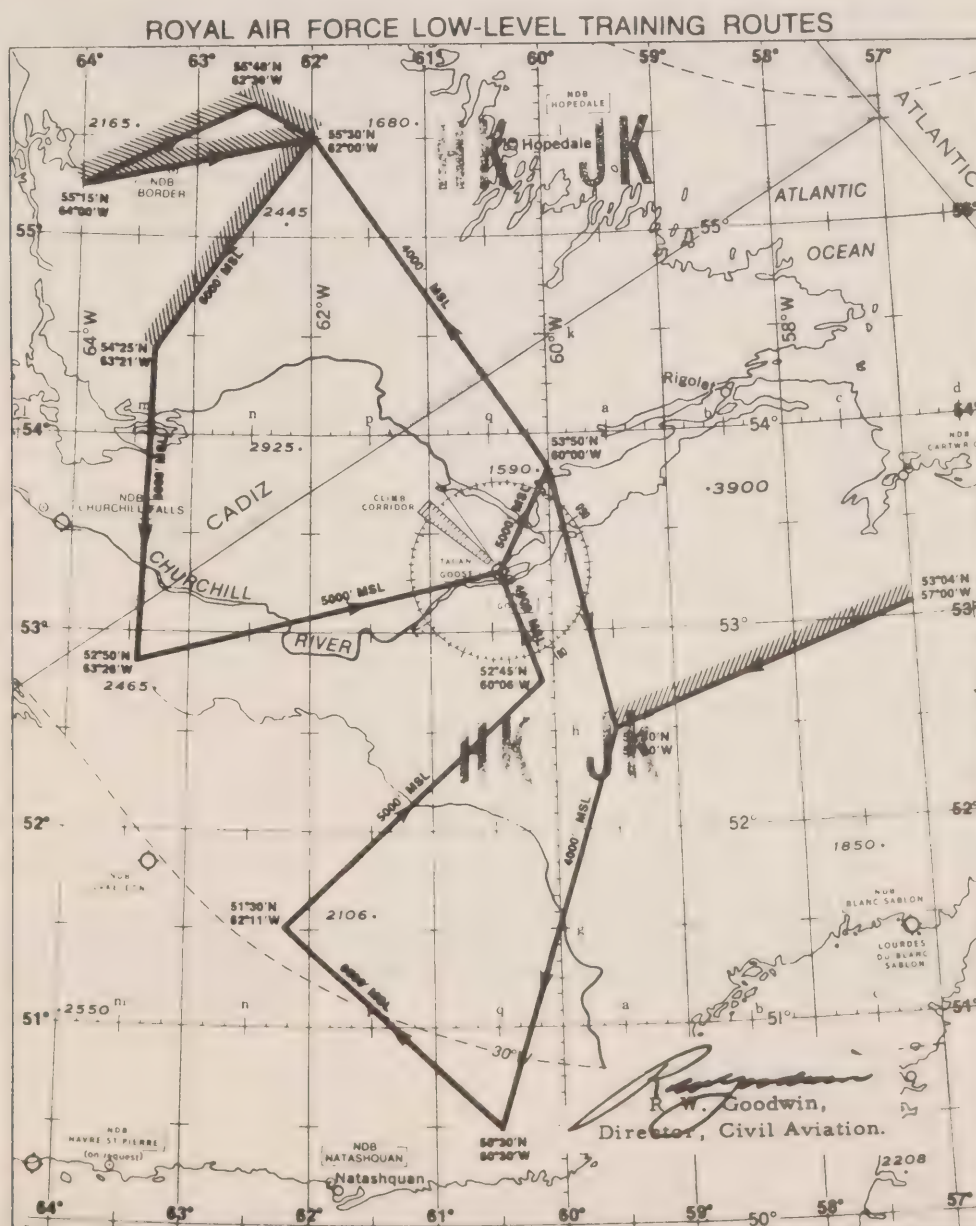


ROYAL AIRFORCE LOW-LEVEL TRAINING ROUTE

Aircraft will follow the route shown below and remain within 4 NM either side of centreline. Aircraft will operate at the MSL altitudes shown, or in VFR weather conditions, may descend to within 250 feet AGL. In the hachured areas depicted, aircraft may be encountered at low-level or descending from FL 230.

Pilots are urged to exercise caution when flying in the vicinity of these routes.

Details of daily schedules may be obtained by contacting MOT Aeradio Stations, or calling collect Moncton Area Control Centre Tel. No. 389-2442.



NOTAM



RADIO

20/70
20th July

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 1


IMPLEMENTATION OF NEW AERONAUTICAL MOBILE HIGH FREQUENCY ASSIGNMENT PLAN - CANADIAN INTERNATIONAL AIR-GROUND STATIONS

(Supplementing NOTAM 21/69 and Part 7 of FIM)

In accordance with the new Aeronautical Mobile High Frequency (HF) Assignment Plans for the various ICAO Regions the following frequency changes will become effective at the listed Canadian International air-ground stations at 0001 hours Greenwich Mean Time, September 17, 1970.

Location	Frequencies (kHz) in Use Prior to 17th September, 1970	Frequencies (kHz) Effective 17th September 1970
Cambridge Bay	8913.5	8910
Churchill	8913.5	8910
Edmonton	8913.5	8910
Frobisher	8913.5	8910
Gander	5559 5641.5 8828.5 8862.5 3888 8913.5	5652 5638 8868 8854 8889 8910
Goose	8913.5	8910
Mont Joli	8913.5	8910
Montreal	8913.5	8910
Resolute	8913.5 8939	8910 8938
Winnipeg	8913.5	8910
Ocean Station Vessel "PAPA"	8939	8938

Air-ground communications service on the frequencies listed in the first column of frequencies above will be discontinued at 0001 hours Greenwich Mean Time, September 17, 1970 at which time aircraft using these frequencies must change to the new frequencies to maintain communications with the above noted air-ground stations.


R. W. Goodwin,
Director, Civil Aviation.

NOTAM



Air Traffic Control

22/70
27 August

MINISTRY OF TRANSPORT
CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 2

MONTREAL INTERNATIONAL AIRPORT -
VFR FLIGHT PROCEDURES

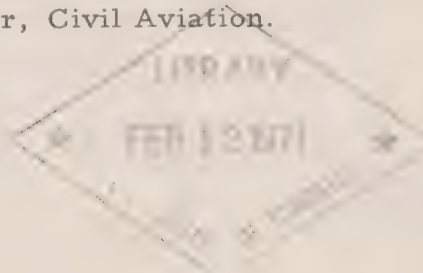
(Supplementing NOTAM 12/70 and Part 6 of the
Flight Information Manual)

In addition to the procedures applicable to the positive control zones as set forth in ANO Series V No. 21, entitled "Positive Control Zone Order", pilots of VFR aircraft planning to operate in the airspace above 1500 feet ASL over the hatched area shown on the accompanying chart are requested to contact Montreal Tower on 119.1 MHz upon entering the airspace.

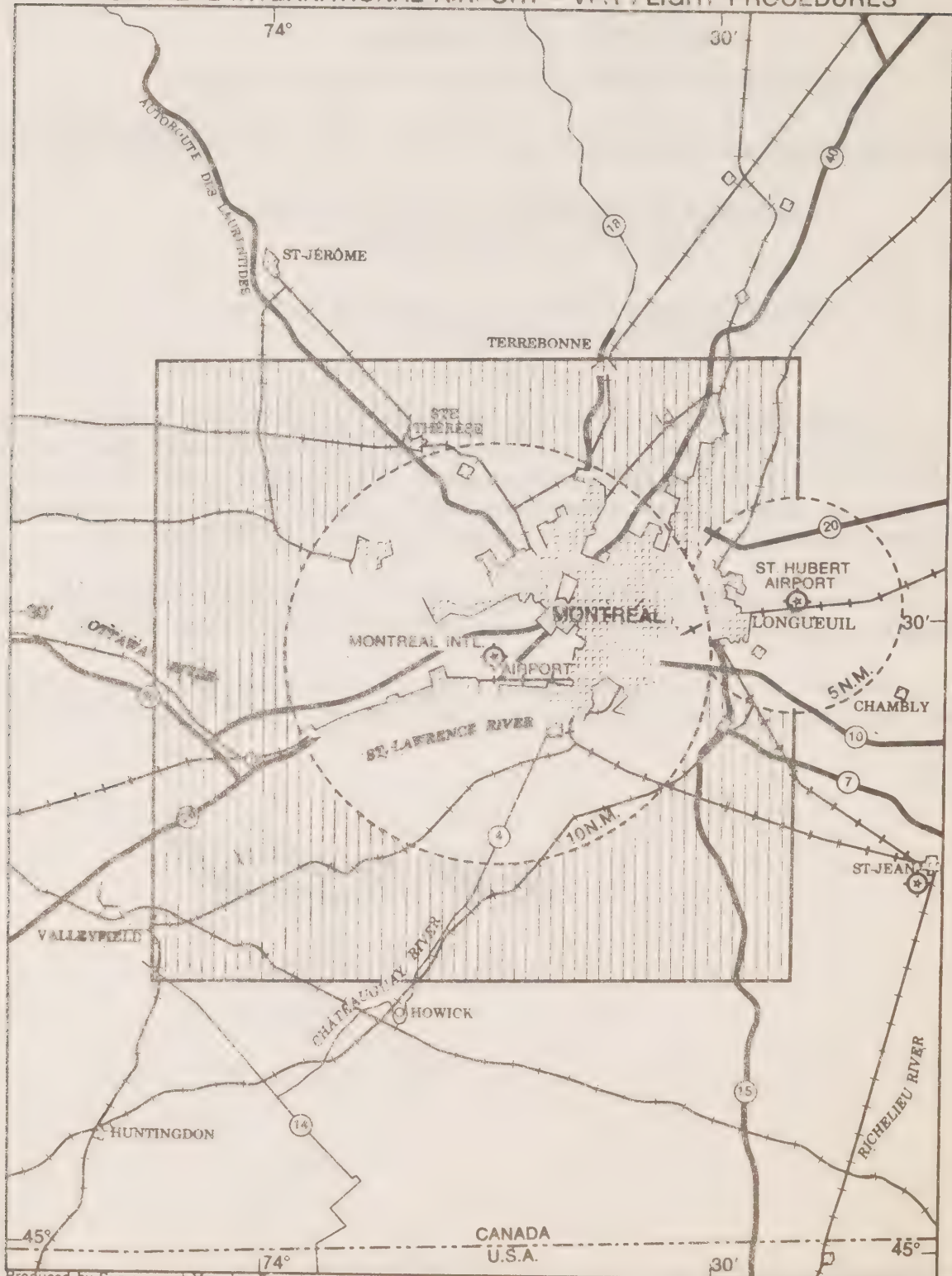
Pilots should inform the tower of their geographical positions in relation to a prominent land mark, altitude and proposed route of flight.

Compliance with this procedure will assist ATC in providing VFR pilots with information concerning possible conflicting IFR or VFR traffic.

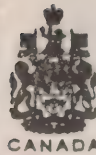
W.M. McLeish,
Director, Civil Aviation.



MONTREAL INTERNATIONAL AIRPORT - VFR FLIGHT PROCEDURES



NOTAM



Hazards

23/70
28 August

MINISTRY OF TRANSPORT
CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 2

ST. HUBERT AIRPORT, QUEBEC

(Supplementing NOTAM 15/68 and Part 5 of the
Flight Information Manual)

SPORT AVIATION AND TRAINING AREAS

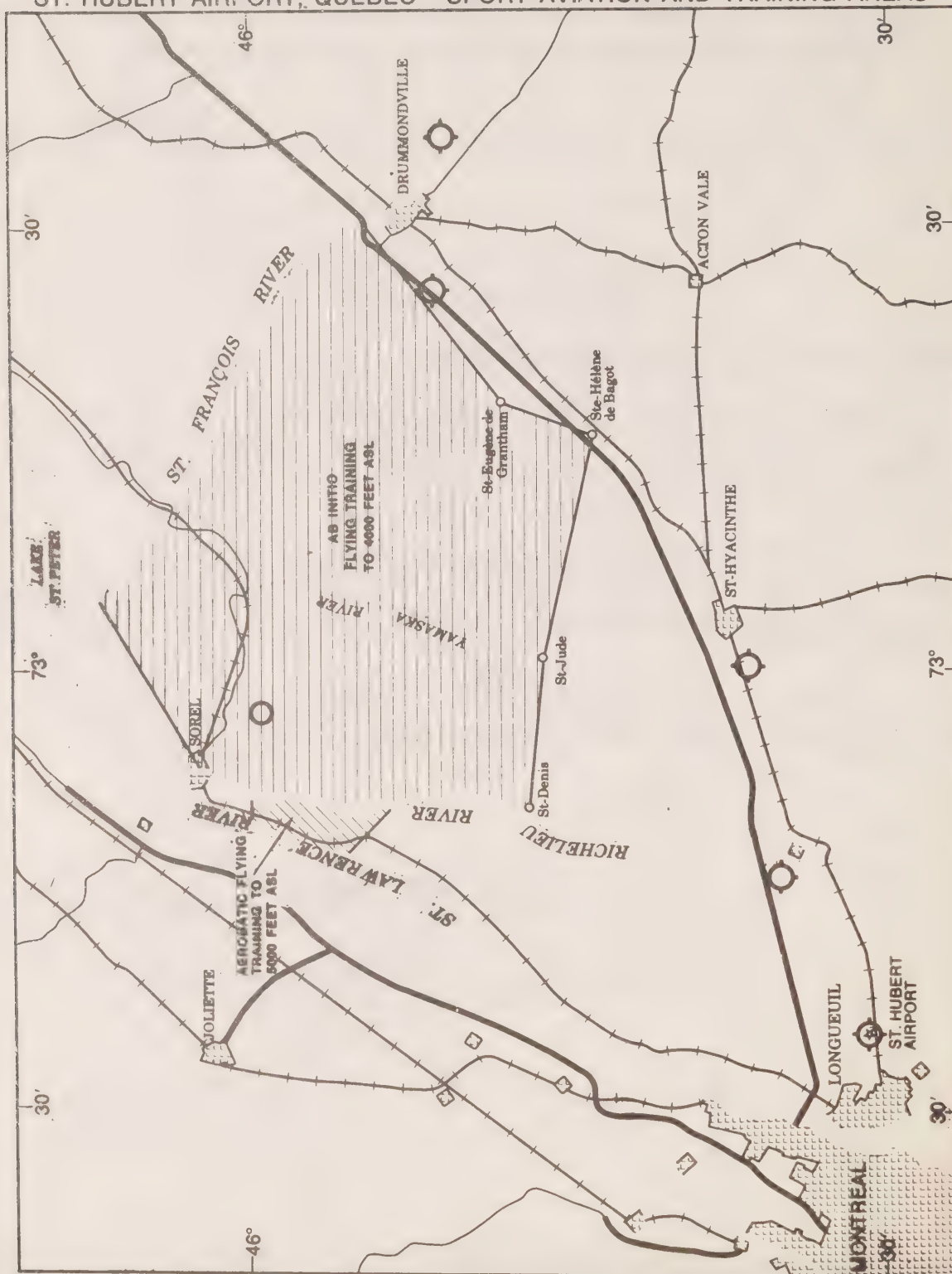
Extensive aerobatic flying training is conducted within the area depicted on the accompanying chart between the St. Lawrence and Richelieu Rivers, up to and including 5000 feet ASL during daylight hours in VFR weather conditions.

Extensive ab initio flying training is conducted within the area depicted on the accompanying chart between the Richelieu and St. Francois Rivers, up to and including 4000 feet ASL during daylight hours in VFR weather conditions.

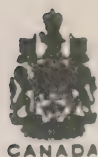
In the interest of safety, pilots of aircraft not involved in these activities should avoid the areas at and below the altitudes indicated.

W.M. McLeish,
Director, Civil Aviation.

ST. HUBERT AIRPORT, QUEBEC - SPORT AVIATION AND TRAINING AREAS



NOTAM



Restricted Airspace

26/70
1 December

MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

Page 1 of 2

TEMPORARY RESTRICTED AIRSPACE

A large scale military air exercise to be known as Snowtime 71-4-C will take place over Central Canada between 0400 hours and 1150 hours Greenwich Mean Time on February 17, 1971.

Because of the large number of military aircraft involved, it is considered advisable that the flight of all civil aircraft in the airspace over the exercise area should be restricted and an Air Navigation Order will be made accordingly.

Unless therefore the flight is made within controlled airspace and is authorized by the appropriate air traffic control unit, no aircraft shall be flown on February 17, 1971 in the airspace over the area depicted on the reverse side of this NOTAM as follows:

- | | |
|----------------|--|
| AREA I | - between flight level 230 and flight level 450 between 0400 hours and 1150 hours Greenwich Mean Time. |
| SUB AREA I (A) | - between 5000 feet above mean sea level and 14,000 feet above mean sea level between 0725 hours and 1135 hours Greenwich Mean Time. |
| SUB AREA I (B) | - below FL 230 between 0600 hours and 1130 hours Greenwich Mean Time. |

A Class I NOTAM to be issued at least 24 hours in advance of the exercise will provide additional related information.

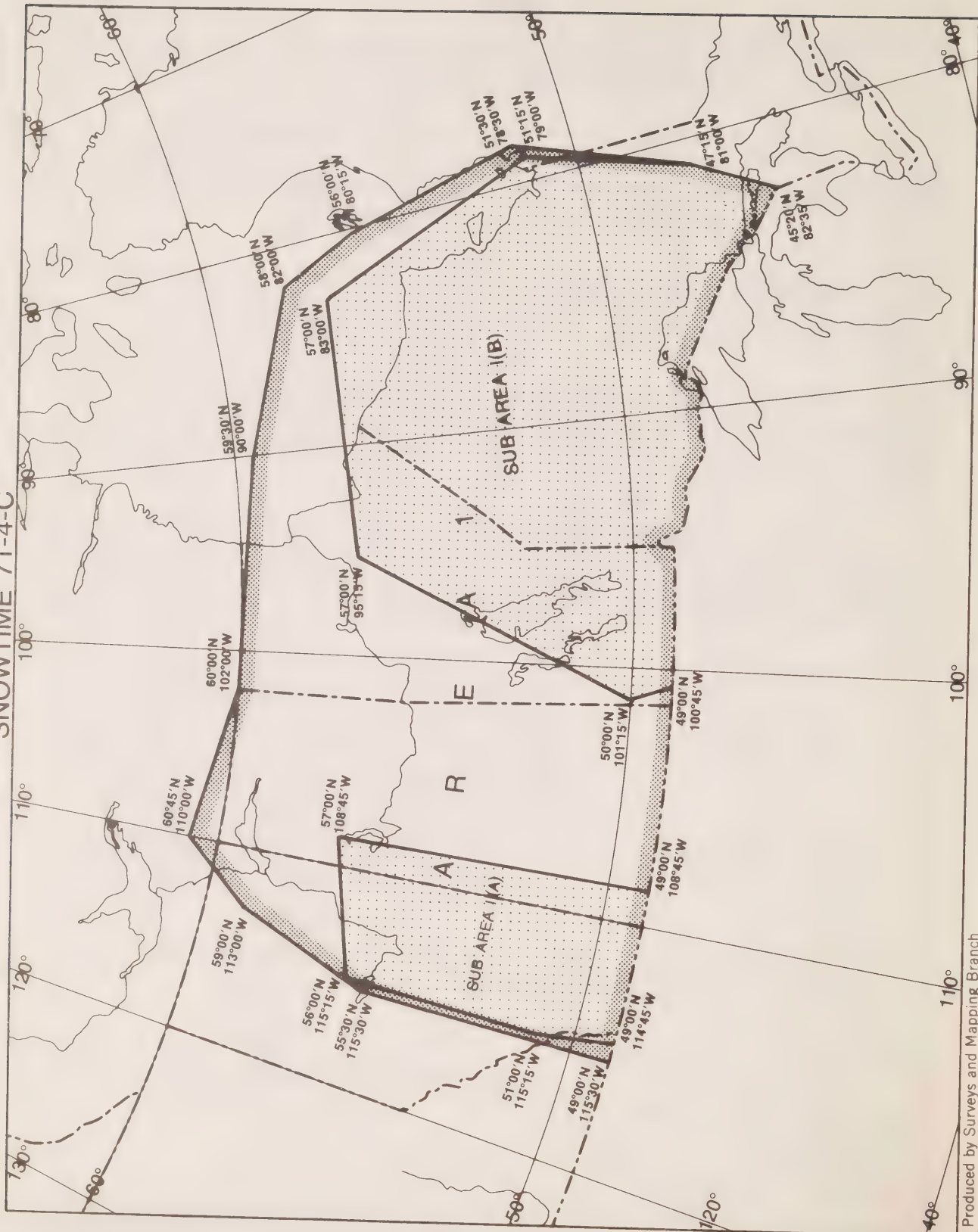


W.M. McLeish

W. M. McLeish,
Director, Civil Aviation.

TO HAVE MAILING ADDRESS CHANGED PRINT NEW ADDRESS ON THE ENVELOPE IN WHICH THIS CIRCULAR WAS RECEIVED AND RETURN TO RECORDS MANAGER, DEPARTMENT OF TRANSPORT, OTTAWA. (POSTAGE FREE IF MAILED IN CANADA).

SNOWTIME 71-4-C



Notices to airmen
NOTAM



SUMMARY
1st January, 1971
(Supersedes all previous Summaries)

Civil aviation branch
MINISTRY OF TRANSPORT

CANADIAN AIR TRANSPORTATION ADMINISTRATION

The following NOTAM, although still valid, have been amalgamated under one cover "1970 FLIGHT INFORMATION MANUAL", and are no longer available as separate entities:

1968		1969
5/68	26/68	13/69
15/68	29/68	17/69
23/68	31/68	21/69

SPECIAL NOTICES

NOTE 1: The following NOTAM up-date the 1970 edition of FIM:

- 2/70 HAZARDS AND OBSTRUCTIONS - Tactical Air Fighting Areas - Bagotville, P.Q.
- 5/70 AERODROMES - LAND - Special Procedures and Facilities
- 10/70 AIR TRAFFIC CONTROL - Positive Control Zones
- 12/70 AIR TRAFFIC CONTROL - Air Traffic Control Procedures
(included in 1970 edition of FIM)
- 13/70 AERODROMES - LAND - Special Procedures - Edmonton International,
Edmonton Industrial Airports and Namao Aerodrome, Alta.
- 14/70 AIR TRAFFIC CONTROL - Preferential Route System - Northern Control Area
- 15/70 HAZARDS AND OBSTRUCTIONS - Rocket Launches from Churchill, Man.
- 19/70 HAZARDS AND OBSTRUCTIONS - R.A.F. and U.S.A.F. Low-Level Training
Flights
- 20/70 RADIO - Mobile (HF) Assignment Plan
- 22/70 AIR TRAFFIC CONTROL - VFR Flight Procedures - Montreal International
Airport
- 23/70 HAZARDS - Sport Aviation and Training Areas

NOTE 2: The following NOTAM have been superseded or cancelled:

- 6/70 Time Expired - September 30, 1970.
- 11/70 Time Expired - September 30, 1970.
- 25/70 Time Expired - December 2, 1970.

NOTE 3: 26/70 TEMPORARY RESTRICTED AIRSPACE - Snowtime 71-4-C from 0400 GMT
until 1150 GMT on February 17, 1971.

